C A L I F O R N I A

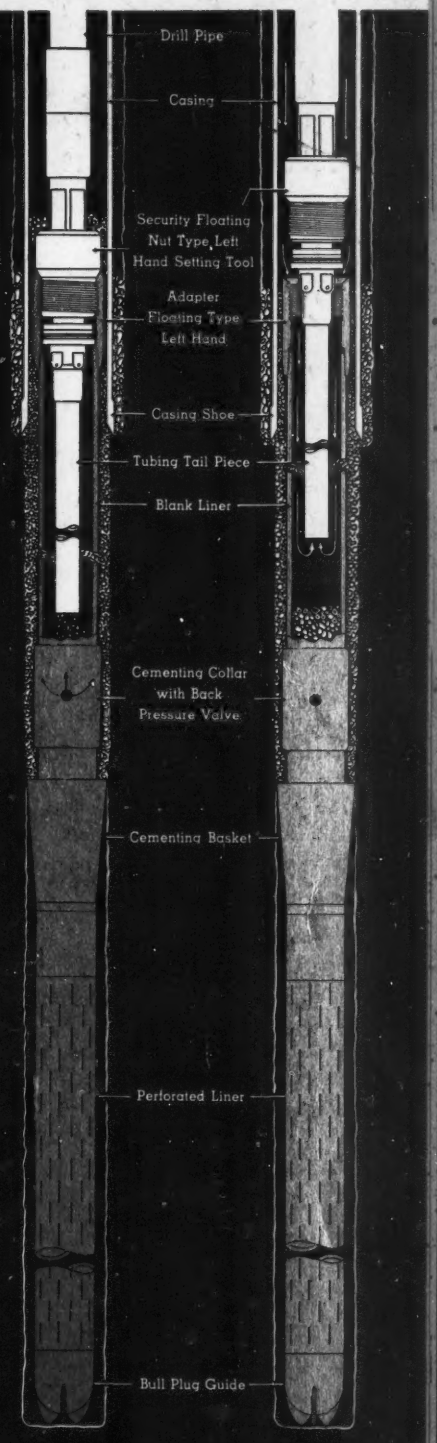
OIL WORLD

and Petroleum Industry

Tulsa Public Library,
Attn: Technical Dept.,
Tulsa, Okla.
171 P

PART OF A SERIES SHOWING HOW "SECURALOY" INCREASES DEVELOPMENT EFFICIENCIES

NOW LINERS CAN BE CEMENTED MORE SAFELY ... MORE EFFICIENTLY



Under certain conditions there are important advantages to be obtained by cementing liners in place, such as:

Added protection against water breaking in around shoe.
Obtaining an effective seal between liner and casing for proper gas control.
Cementing off secondary oil and gas zones for later development or use.

However, until the introduction of the drillable metal "Securaloy", the cementing of a liner in a well has generally incurred future removal difficulties. Once cemented in place, ordinary steel liners can only be removed—if at all—after expensive fishing and cutting operations, which, in themselves might further jeopardize the well.

But "Securaloy", being completely drillable, entirely eliminates these dangers, and operators are now able to obtain all the advantages of cemented liners without jeopardizing the future of their wells.

Because "Securaloy" metal actually drills faster than cement, the "Securaloy" Liner can be completely removed with minimum expense and effort when the time comes to recondition the well or explore for deeper zones. Furthermore, a complete range of accessories, such as liner hangers, cement baskets, cement collars, adapters, etc., are available made of "Securaloy" to permit *any* combination of cementing equipment desired so that all or *any part* of the liner and accessories can be drilled up whenever necessary.

Then, too, "Securaloy" can be perforated more efficiently than steel so that intermediate zones can be readily produced, if desired, before the equipment is drilled up.

Thus, by using liners and accessories made of "Securaloy", many operators are now cementing their liners in place *and still completely protecting their oil well investment against any future contingencies!*

EFFICIENT SETTING, CEMENTING AND RELEASING

When cementing liners in place, the job can be done most efficiently with the new Security Left Hand Releasing Tool described below. A typical cementing job using this tool is illustrated on the right. The liner is run in the hole in the conventional manner and is cemented in place through ports placed above a baffle plate (fig. 1). After the cement is put away the tool is backed off, raised a short distance, and circulation is reversed to quickly wash all excess cement out of the liner and back up the run-in string (fig. 2).

The Left Hand Releasing Tool is particularly suitable for the cementing operation because it does not require packing or rubbers of any kind on the tail pipe to maintain high cementing pressures. Its releasing action is positive and fool-proof!

SECURITY LEFT HAND RELEASING TOOL . . .

This is an entirely new device for setting oil well liners and accessories. When using the Security Releasing Tool, the equipment to be released is made up on the left hand thread of the "floating" head, and the assembly is connected to the run-in string. It is lowered into the hole in the regular manner until the setting point is reached. The ball bearing thrust washer rests against the shoulder provided for it in the adapter and takes all weight off of the back-off thread, but at the same time permits sufficient weight to be applied through the ball thrust bearing plate to hold the liner firmly in place while unscrewing.

Packing between the nut and mandrel enables high washing or cementing operations to be maintained, and provisions are made for attaching any length tail pipe for concentrating the cement wherever desired.

It is not necessary to raise the run-in string while backing off, because the "floating" head automatically slides up the mandrel as it releases. This completely eliminates any danger of binding the threads while releasing!

Write for illustrated bulletin describing the Security Releasing Tool!

SECURITY ENGINEERING CO., INC.

WHITTIER, CALIFORNIA, PHONE 42004

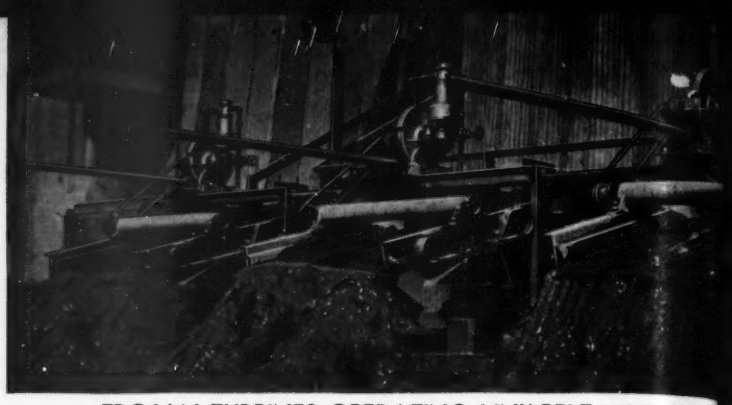
MID-CONTINENT ★ 5525 CLINTON DRIVE, HOUSTON, TEXAS, PHONE CAPITOL 2011

EXPORT ★ SECURITY ENGINEERING CO., INC., 420 LEXINGTON AVENUE, NEW YORK CITY

Sievers Reamers ★ Securaloy ★ Security Drillable Products

IT'S AN OLD MEDEARIS CUSTOM...

To Sell GOOD PRODUCTS Backed Up with *LIGHTNING* SERVICE



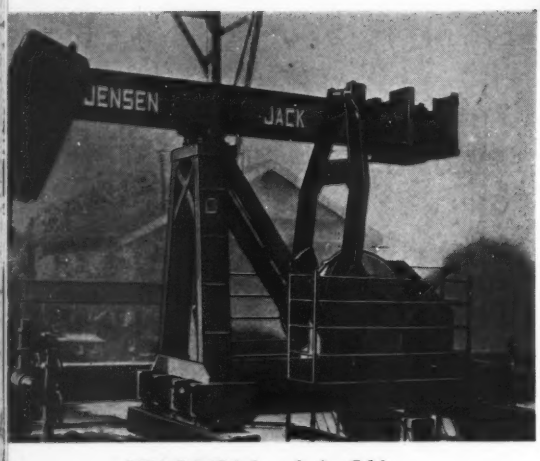
TROJAN TURBINES OPERATING LINK-BELT MUD SHAK

TROJAN TRIPLE - STAG STEAM TURBINES

Especially designed for vibrating ro mud screen operation. Full speed rea in 10 seconds, thus minimizing screen- wear and spring breakage. Operate uniform speed regardless of steam pres Send for illustrated bulletin.

MUD SHAKER SALE RENTALS, SERVI

Let Medearis handle your mud sh requirements. Immediate delivery on and rebuilt shakers—large rental stock—experienced maintenance and repair service.

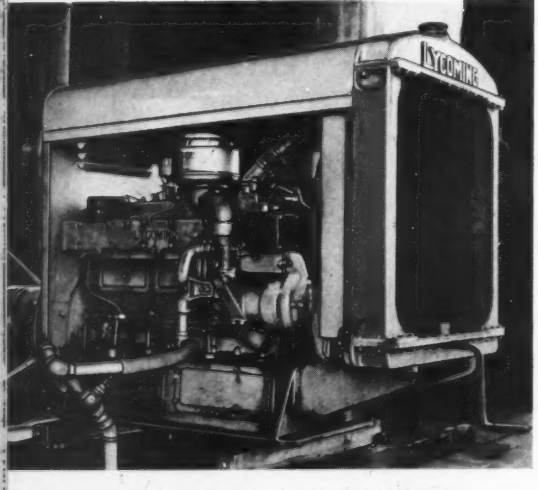


JENSEN JACK

JENSEN JACKS

Ten sizes of Jensen units are available to meet all field requirements of California operators. Sold, stocked and serviced by Medearis Oilwell Supply Co. Model 14-C Wire Line Head Jensen Unit (photographed at Wilmington) has maximum capacity of 14,000 pound peak load. Send for bulletin describing the entire Jensen line.

Genuine **BETTIS** Protectors



LYCOMING ENGINES

LYCOMING *Natural Gas* ENGINES

Developed especially for natural gas—engineered to give 100,000 hours of dependable field service. AG series includes 4-, 6- and 8-cylinder models identical in basic design and efficiency with a majority of parts interchangeable in all engines. Complete field service facilities, engineering staff and stocks of parts available. Descriptive booklet sent on request.

REX CHAIN

All types of new Rex Chain available for immediate delivery. Thoroughly reconditioned chain for all draw works and rotary drive applications carried in stock.

Wherever your well may be in California, our trained service men will install Genuine Bettis Protectors with the simple, safe hydraulic installation equipment shown at right. This equipment does all the work, puts a protector on a single joint as easily as on a double or a full stand. Eliminates pushing or hammering with the hook, thus preventing injury to the tool joint box. Fresh stocks of Genuine Bettis **Uniform Quality** Protectors, in all sizes, carried at all of our service branches.

MEDEARIS *Oilwell* SUPPLY CO

8638 OTIS STREET, SOUTH GATE, CALIF.
JEfferson 7285

BAKERSFIELD AVENAL SANTA MARIA VENTURA

CALIFORNIA
OIL WORLD
and Petroleum Industry

THE AUTHORITY ON THE CALIFORNIA OIL INDUSTRY

FIRST ISSUE
FEBRUARY 1939
VOL. 32 » NO. 3
WHOLE NO. 1530

IN THIS ISSUE

Organization of Cooperative Curtailment 2

Production and Development 6

The Oil and Gas Fields of Kern County 8

Map of Kern County Oil and Gas Fields 11

Geologic Horizons of Kern County Oil and Gas Fields 16-17

Laugh This Off 20

San Joaquin Valley Development 22

Los Angeles Basin Development 26

Coastal District Development 28

Crude Oil Production 29

PETROLEUM PUBLISHERS, INC. PETROLEUM SECURITIES BUILDING
LOS ANGELES, CALIFORNIA - MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

WALTER C. MONROE	President and Editor	R. N. RICHEY	Assoc.-Editor
M. S. FOX	Vice-Pres.	DAVIS E. BROWNE	Secty.-Treas.
R. C. CONINE	Assoc.-Editor	L. O. MILLER	Advertising Manager

W. E. AUSTIN, Manager, California Oil World News Service

GEORGE S. MacDONELL, Manager, California Oil World Directory

California Oil World and Petroleum Industry is published twice a month at 536 Petroleum Securities Bldg., 714 West Olympic Blvd., Los Angeles, California. Entered as Second-class Matter January 1, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price: $1 per year in U. S. and possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

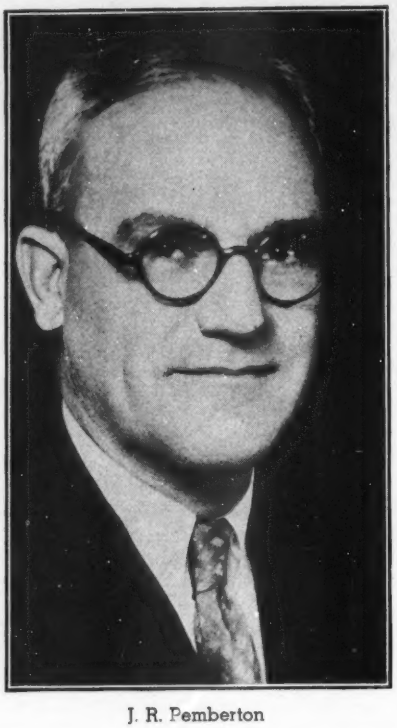
February 8, 1939

Telephone Number Richmond 2136

Organization of Cooperative Curtailment

Outlined by the Oil Umpire

EDITOR'S NOTE: To give readers of the California Oil World a clear picture of the manner in which crude oil production in the state is kept near the consumption level, the editor asked J. R. Pemberton, oil umpire for the state, to explain the workings of the California cooperative curtailment program.



J. R. Pemberton

By J. R. Pemberton, Oil Umpire

Voluntary curtailment of oil production has been handled since February 10, 1936 by the producers themselves. An election is held annually in 23 separate and distinct large oil fields or large producing districts comprising many small fields, wherein a committee of operators is elected. The chairmen of all of these committees constitute a Central Committee. The Central Committee elects three members-at-large: one for the San Joaquin Valley, one for the Coastal District and one for the Los Angeles Basin District to represent landowners and/or other operators in newly created areas who were not represented when any annual election of field committees was held. The Central Committee comprising these 26 committeemen has jurisdiction over the personnel and functions of the Oil Umpire's office which organization carries out each month the orders of the Central Committee and administers the curtailment program. The Central Committee has several sub-committees, the principal one of which is the Allocation Committee composed of 5 individuals. This committee devotes several days each month to the problems affecting curtailment for the succeeding month and makes recommendations at the monthly meeting of the Central Committee, which is usually held in the last week of each month, and the Central Committee either adopts, alters or rejects such recommendations of the sub-committee and the Umpire's office carries out the final recommendations of the Central Committee.

The function of the Umpire's office is essentially one of keeping statistics relating to the ownership, location, name, depth, potential, allotment and production of oil from each well, property, company, pool, field and district within the State of California. All such statistics are factual and the Allocation Schedule which is issued monthly is pursuant to the orders of the Central Committee relative to the quota assigned a field and the wishes of the field committee as to the method by which the quota shall be distributed to all the wells in the field. The Summary of Production issued each month shows the production for the month as the records are obtained, either by wells, leases, companies or fields.

The function of each field committee is to meet with the operator or without them as the case may be and decide upon the method by which the quota of the field shall be distributed to the wells of a field. Neither the Central Committee nor the Umpire's office has any authority over the method of distribution of oil to individual wells.

The Central Committee has actually only two duties to perform. The first is to set the quota of production for the State for the ensuing month and the second is to set the quota of production for each pool and field within the State. No trouble has been experienced at any time in agreeing upon a quota for the State inasmuch as the correct figure to balance supply with demand is generally fixable within small limits due to known facts as to whether oil is or is not going into storage. Therefore, the Central Committee really has only one task to decide which is of a controversial nature and that is the establishment of field quotas.

Manner of Establishment of Field Quotas

Curtailment must always have a starting point and as all producers know, field quotas are changed every month, either being reduced or increased. The starting point for the present curtailment was February 10, 1936. Following the dissolution of the NRA Code on May 28, 1935 producers all will remember that the ensuing eight months production mounted from about 492,000 barrels daily in May to 673,000 barrels daily in January 1936 with low prices and general disorganization, and no stabilization prevailing during the interval. Curtailment was reestablished in February 1936 and at that time, following many meetings between Independents who agreed upon pool quotas for the State; Majors and large Independent companies who also agreed upon quotas for the State, with a final compromise between the two groups as to quotas and these quotas were established and made effective for February 1936. This date is the starting point for voluntary curtailment which has endured for three years. All the field quotas as of that date are the **base quotas** upon which present day quotas have been calculated and are continuing to be calculated month by month.

These February 1936 **base quotas** bore to each other more or less reasonable relations to their respective potentials or more properly their capacity to produce and more especially from the point of view of the average size of wells within fields. In other words, two fields with the same number of wells of the same average daily capacity received equivalent quotas and fields with different numbers of wells of the same average capacity to produce received quotas proportionate to the number of wells and these **base quotas** were acceptable to all the committees and a large number of individual producers who would be affected by the adopted quotas.

The Problem of the New Well

New wells have been brought in in California every month since the oil business started or at least as far back as any of us can remember. During periods when drastic curtailment has been in force all curtailment groups have operated on the principle that new wells shall be treated differently than old wells solely in the interests of limiting the increase in quota of production of a field

because of bringing in of a new well. This has been done principally for two reasons: (1) to discourage excessive drilling if possible and (2) to ease the amount which must be taken from other fields to give allotments to all new wells as they are brought on production. With a constant quota of production for the State month by month and the completion month by month of many new wells, it is obvious that whatever allotment is granted these new wells must be taken from all the fields in the State on some equitable basis in order to maintain a constant quota for the State. Where the demand for crude is increasing month by month it often happens that the increase in quota is enough to give all new wells satisfactory allotments without diminishing the quotas of the other fields; but when that condition does not exist all quotas must be reduced to obtain the oil for the new wells. There has been at all times some formula by which the quota for a new well is calculated. All new wells are treated automatically the same and whatever quota due to the application of a formula results, this quota is added to the field quota within which the well is found. As before stated, the formula used by the field committee and operators in that field, is then applied to all the wells in the field in breaking down the new field quota and the new well actually receives the same quota of production as other wells of similar potential in that same field. Therefore, regardless of the fact that the field quota is increased because of the new well formula being applied to a new well in that field, it does not follow that new wells shall receive only that particular quota of production unless the operators in a field so decide.

From the above it follows that inasmuch as the formula for determining the allotment to new wells has always had the effect of giving new wells less allotment than old wells of the same size, that the field quota of any field which has been discovered and developed since February 1936 will be very much less than that awarded to an old field with the same size wells so that as time goes on (and three years has been a long time) there are today great discrepancies and differences between the quotas of various fields with reference to the potentials of those fields. This cannot be otherwise under the whole scheme of things as it has been followed, and reflects nothing more or less than the desire on the part of the owners of all of the wells which were in existence in February 1936 not to step aside and give up allotment as fast as new wells should be drilled and in whatever number the operators decided to drill. There is no opposition to the fact that the quotas of fields which have been discovered since February 1936 are low in comparison to other fields excepting from the operators in those new fields.

The Effect of Decline on Field Quotas

Field quotas have been reduced every month since February 1936 by an amount of oil which is believed to represent the true decline in ability to produce of the field. This is obviously just and equitable in order that the degree of curtailment shall remain constant provided all other things remain constant. As an example of the application of this principle, I can cite a field such as the El Segundo Field which at its peak in April 1938 had a quota of 11,250 barrels daily but during the month of January 1939, nine months later, had a quota of 3,680 barrels daily. All producers know how rapidly the ability to produce of that field did decline and it would have been obviously ridiculous to continue to maintain month to month the original high quota. All fields decline because the wells decline and it has obviously been necessary to reduce the quotas of all fields each month by an amount equal to the actual decline within the field in order that curtailment of wells in all fields shall be maintained on a constant basis. Similarly quotas of fields are reduced each month because of wells which cease to produce and are abandoned; wells which are taken off production by the producer either for repairs or deepening; plugging and recompletion at some upper level or for any other reason. Such wells therefore should have no allotment and the allotment that they have in the month prior to cessation of production is taken from that field's quota. These items serve further to swell the amount of oil by which all fields are reduced in quota each month.

Summary of Curtailment Program

All of the above may be summarized as follows:

1. Curtailment is entirely in the hands of oil producers in California.
2. The Central Committee establishes the State Quota and each Field Quota.
3. Each Field Committee has entire authority over the manner of allocation to wells within each field.
4. The Oil Umpire has no discretionary authority of any kind and carries out the orders of both the Central Committee and the Field Committees and issues schedules reflecting their orders.
5. Field quotas have not since February 1936 borne any constant relation to each other from a potential standpoint.
6. Allotments to new wells are lower than allotments to old wells only in so far as the quota of the field in which the new well exists is affected.
7. Because of all of the above, allotments to wells of the same size and depth in different fields are not the same and there is no way of causing them to be the same unless new wells would be treated the same as old wells at all times.

Some of the Problems of Curtailment

One of the questions which is asked more often than any other has to do with why the most ardent proponents of curtailment continue to drill new wells. The answer to this question of course lies in lease obligations and the involved fact that all companies are always interested in obtaining productive leases in newly discovered fields regardless of whether the company is a large or small company and whether they are or are not proponents of curtailment. One of the largest landowners in California, the Kern County Land Company, has been willing at all times to lease land for the development of oil and at the same time is unwilling to forego a complete cessation of drilling on its lands following the discovery of oil. Assessments and taxes mount as soon as oil is discovered on a new tract of land and in order to make a success of their business they insist on a reasonable and continuous rate of development. Other landowners of lesser magnitude likewise force the drilling of wells. There is a minimum of drilling of wells on fee-owned property by large interests and certainly no wildcatting. The landowner in California exerts a large influence on the curtailment and quite frequently has seen fit to employ technical engineering services for the purpose of discovering whether his wells are being curtailed differently than other wells are being curtailed and he of course does discover that to be a fact due to the previously recited difference in treatment of new fields and old fields. Generally speaking, throughout the State there is in effect what is called the minimum allotment whereby no curtailment is asked of small wells. This minimum, while not constant, is 15 barrels daily in most fields, or 1 barrel daily for each 200 feet of producing depth if this is greater than 15 barrels. Thus a well of 5,000 feet in depth would have a minimum allotment of 25 barrels daily. The owners of many of the so-called marginal wells find that the oil is accompanied by large and increasingly larger amounts of water. And there has been at all times a fairly large group of producers who feel that because of the water which they must lift in order to get the oil that they should not be required to curtail and their allotment should be equivalent to their total production. Data on this subject shows however that there is no such thing as a well which does not produce water

and that the entire State of California is approximately 46% wet and that the fields within which any marginal wells exist are generally in excess of 50% wet. The percent of water to total fluid produced in some typical fields is as follows:

Buena Vista	46%
East Coalinga	49%
West Coalinga	55%
Elk Hills	58%
Kern River	93%
Lost Hills	63%
McKittrick	84%
Midway	55%
Mount Poso	68%
Round Mountain	59%
Alamitos Heights	82%
East Coyote	52%
Huntington Beach—Old	57%
Long Beach	63%
Montebello	65%
Playa del Rey	69%
Santa Fe Springs	63%
Seal Beach	65%

Even some of the newer fields or so-called gusher fields have water contents as follows:

North Belridge-Temblor	49%
Kettleman Hills	13%
Mountain View	31%
Elwood	68%
Ventura Avenue	15%
Dominguez	29%
Huntington Beach—New	34%
Inglewood	39%

The facts are of course that all oil fields in California with the possible exception of the Lake View-Midway Field are what is known as water-driven fields and that as soon as the free gas and most of the dissolved gas of the field has been produced that it is the water and water alone pressing in from the sides of the fields which forces the oil to the wells. Quite commonly production of oil from a well with a large amount of water is increased if the pump capacity of the well is increased and the more water the producer can pump the more oil he gets. While it would be wonderful if curtailment could be so arranged that all producers could produce their wet wells to capacity, the fact that the entire State is so wet as to make it necessary to treat all wet wells equally that it would be impossible to hand out enough allotment to wet wells without producing too much oil in California. Most producers feel that a line could be drawn and wells above a certain degree of wetness only should be exempt from curtailment. Generally speaking, the line is always drawn at slightly below the degree of wetness of the particular producer's wells. The water problem, therefore, is such as to be difficult of solution and the Central Committee has religiously refrained from doing anything about it. If a producer can show the committee in his own field or all the operators in his own field that his well is so different from all of the other wells in that field as to warrant special consideration, it has been customary for such field committees to grant special consideration.

There are many producers who state most positively that they are strong supporters of curtailment and desire most ardently to curtail provided their allotment is fair and then proceed to state what they think is fair. A consideration of what is fair and what is not fair has always been the essential thought in the minds of the individuals comprising the Central Committee and all individuals comprising field committees and it may be said at this time that what actually is fair may never be discovered. The facts are that with approximately 18,250 oil wells in California located in some 110 separate and distinct oil producing fields and ranging in size from 2 barrels daily to perhaps 50,000 barrels daily and owned by operators whose interests in the oil industry as a whole are very different and with a total ability to produce in the entire State of more oil than at any time in California's history, the problem of how to compute a fair allotment to any individual well is a matter very difficult of solution. At the present time there is under way an examination into this whole subject by a group known as the Grand Jury or Fact Finding Committee. Their findings and final report are being awaited with eagerness. Suffice it to say, many of the details involved in the calculation of a well's allotment have been altered many, many times and doubtless will be altered in the future. Few people in the Industry know as much about methods which have been used in calculating the allotment to a well as do those who have been intimately connected with these calculations for many years, and there has been often expressed the wish that allotments should be calculated and enforced by some arbitrary group to be created by State or Federal law. Should such a group ever commence to function, I am sure they will be confronted with identically the same problems that have always confronted the Central Committee and that actually their solution cannot be much different in principle from the solution that the Central Committee has found to fit the case each time. Conditions change so rapidly and new problems are so frequently before us that I for one feel sure that no fixed and final formula ever will be created which would satisfy all of the requirements any considerable length of time.

San Joaquin Producers Discuss Severance Tax

With the blunt statement that a severance tax would destroy the independent oil producers of California and throw thousands of oil workers out of employment, Dana Hogan, president of the San Joaquin Oil Producers Association, has called upon the industry to unite in a militant fight against the proposed legislation.

Speaking, recently, before the annual meeting of the Association in Bakersfield, which re-elected him president, Mr. Hogan said the attitude of certain members of the Legislature was such that San Joaquin Valley interests, whether deriving their revenues directly or indirectly from oil, must fight for the preservation of their chief source of income.

"The imposition of a severance tax would force the small independent producers, the operators of stripper wells, to the wall and leave their employees without jobs," Mr. Hogan said.

"Needless to say, the stripper wells are salvaging a great natural resource which would be lost forever to the people of California if additional tax burden forced operators to suspend for any considerable period."

Warning against the staggering burden of taxation, Mr. Hogan said people everywhere are entertaining the illusion that we do not have to pay for public spending.

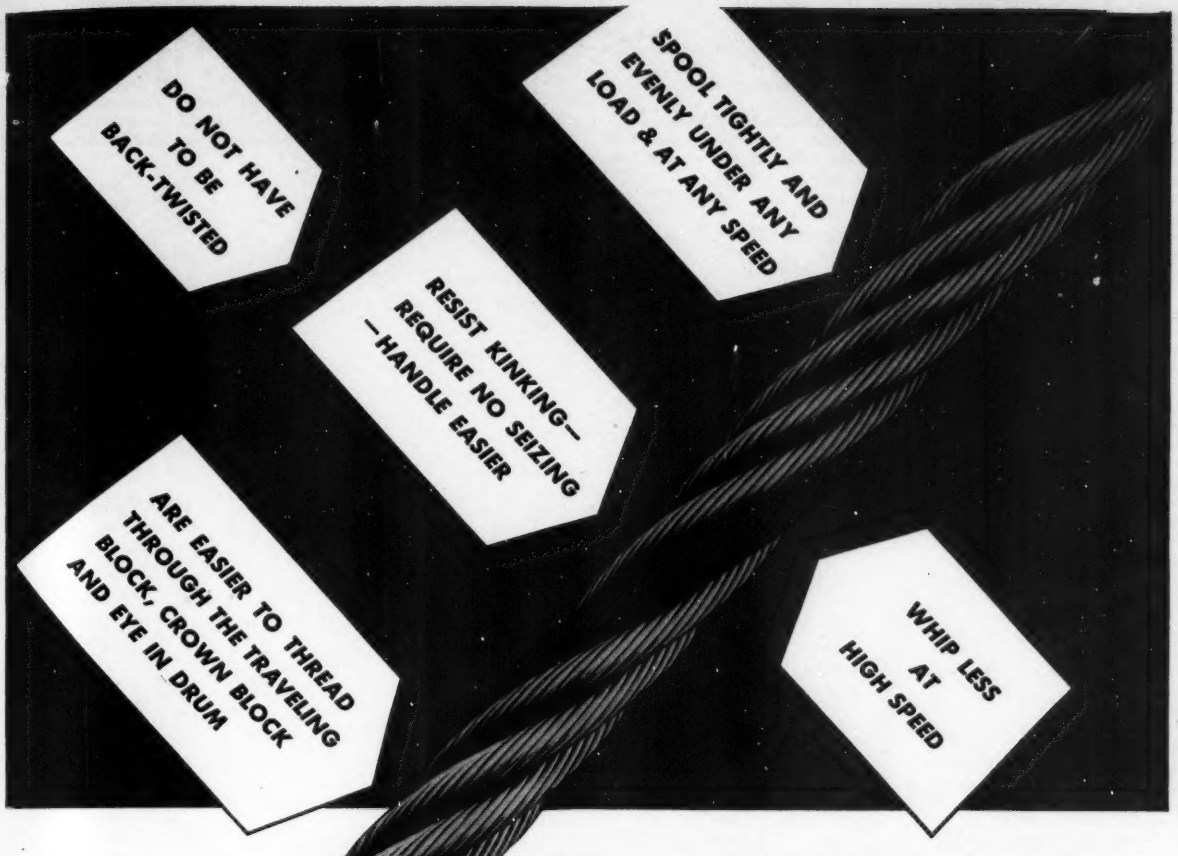
"This is a dangerous illusion that, unless destroyed, will mean confiscatory taxation."

Elected to the board of directors were W. M. Keck, Jr., Superior Oil Co.; A. L. Marsten, Mohawk Petroleum Co.; E. E. Pyles, Hancock Oil Co.; R. A. Broomfield, Barnsdall Oil Co.; Dana Hogan, Hogan Petroleum Co.; Thomas W. McManus, McManus Oil Co.; and Allen Jergins, Monterey Exploration Co.

The board re-elected Mr. Hogan president, Mr. Jergins, vice-president, and Mr. McManus, secretary-treasurer.

The Association is now making a drive among oil producers, royalty owners, supply houses, and others who participate in the benefits of the petroleum industry to aid in the fight to save the industry from the proposed severance tax.

A "sunken" service station, four feet high, at the "Y" intersection of three roads, will give Woodland, California motorists perfect vision in all directions.


DO NOT HAVE TO BE BACK-TWISTED
SPOOL TIGHTLY AND EVENLY UNDER ANY LOAD & AT ANY SPEED
RESIST KINKING— REQUIRE NO SEIZING —HANDLE EASIER
ARE EASIER TO THREAD THROUGH THE TRAVELING BLOCK, CROWN BLOCK AND EYE IN DRUM
WHIP LESS AT HIGH SPEED

● Because of these superior qualities TRU-LAY Preformed lines last longer, thus cutting down replacement, labor, and shutdown costs.

And equally important to all the points put together is the fact that TRU-LAY Preformed lines are safe lines to handle.

All American Cable lines made of IPS are identified by Emerald Strand.

GREEN SIGNIFIES SAFETY

BUY ACCO QUALITY *whether for American Cable Wire Lines —American Welded and Weldless Chain—Page Chain Link Fence—Page Welding Wire—Reading-Pratt & Cady Valves —Wright Hoists, or any of the other 137 ACCO Industrial Products.*

Send today for a free copy of this constructive book

AMERICAN CABLE DIVISION
WILKES-BARRE, PENNSYLVANIA
Branches or Distributors in All Oil Field Centers

PRODUCTION :-: DEVELOPMENT

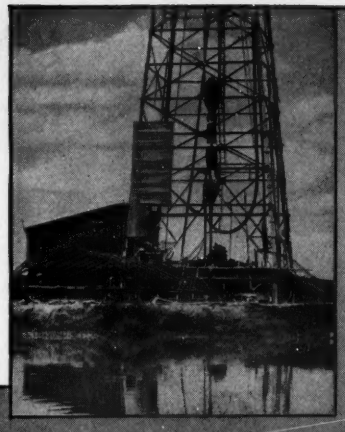
(Figures of Production and Stocks are in barrels of 42 Gals.)

Group No. 1	Total Production December	—DAILY AVERAGE— Dec., 1938	Nov., 1938	Dec., 1937
Belridge—North	402,026	12,968	12,498	16,151
Belridge—South	36,746	1,185	1,135	1,553
Canal	120,685	3,893	3,545	467
Canfield Ranch	1,271	41	58	.....
Coalinga	296,294	9,558	8,124	15,047
Coles Levee	5,550	179	160	.....
Edison	78,137	2,521	2,596	3,782
Elk Hills	314,419	10,143	10,224	10,962
Fruitvale	228,650	7,376	7,784	8,685
Greeley	68,459	2,208	2,419	3,772
Kern River	350,893	11,319	11,280	15,323
Kettleman Middle Dome	1,217	39	38	88
Kettleman North Dome	1,855,881	59,867	61,263	82,173
Lost Hills	99,418	3,207	3,255	3,679
McKittrick	107,632	3,479	3,537	4,359
Midway-Sunset	1,759,849	56,769	55,507	74,266
Mountain View	286,370	9,238	9,298	15,525
Mount Poso	428,056	13,808	14,145	20,923
Rio Bravo	266,758	8,605	9,704	2,559
Round Mountain	396,632	12,795	12,816	17,168
Ten Section	270,291	8,719	8,797	3,662
Tupman	.....	.....	56	.....
Wasco	19,611	633	470	.....
Wheeler Ridge	9,524	307	312	310
Group No. 2				
Capitan	87,161	2,812	2,880	3,017
Elwood	149,091	4,810	5,002	7,648
Rincon	118,878	3,835	4,141	3,069
San Miguelito	77,165	2,489	2,585	3,690
Santa Barbara	13,019	420	394	567
Santa Maria	484,075	15,615	19,253	13,862
Summerland	745	24	32	31
Ventura Avenue	1,051,152	33,908	33,943	35,679
Ventura-Newhall	162,359	5,237	5,544	4,959
Watsonville	930	30	30	60
Group No. 3				
Brea-Olinda	174,409	5,626	5,660	6,132
Coyote—East	85,481	2,758	3,064	4,094
Coyote—West	252,686	8,151	7,972	9,252
Dominguez	757,050	24,421	27,334	29,686
El Segundo	155,261	5,009	5,624	19,951
Huntington Beach	950,421	30,659	31,102	35,403
Inglewood	400,408	12,916	13,400	16,248
Lawndale	2,274	73	69	89
Long Beach	1,610,378	51,948	53,600	58,181
Los Angeles-Salt Lake	14,939	482	515	568
Montebello	507,464	16,370	15,572	7,237
Playa Del Rey	171,682	5,538	5,656	7,608
Potrero	31,372	1,012	634	536
Richfield	254,451	8,208	8,730	10,066
Rosecrans	460,251	14,847	15,703	5,593
Santa Fe Springs	934,361	30,141	30,616	41,011
Seal Beach	242,478	7,822	8,042	9,277
Torrance	595,859	19,221	19,303	7,616
Whittier	27,912	900	935	917
Wilmington	2,856,478	92,144	96,444	62,469
Total	20,034,759	646,283	662,800	704,970
November	19,883,988	662,800		
Decrease (*Increase)	150,771*	16,517		

SUMMARY OF CALIFORNIA OILFIELD OPERATIONS FOR DECEMBER, 1938—STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Dec. 31, 1938 Reclassified*	Dec. 31, 1938 On Old Basis	Nov. 30, 1938	December Changes
1. Gasoline-Bearing Crude	37,018,443	37,046,014	35,965,731	+1,080,283
2. Non-Gasoline-Bearing Crude	16,282,177	16,493,979	16,747,432	− 253,453
3. Unblended Nat. Gas	2,699,455	2,699,321	2,974,191	− 274,870
4. Gasoline (not including distributing and service stations)	13,259,369	13,260,958	12,985,975	+ 274,983
5. Naphtha Distillates	1,566,349[1]	1,566,349[1]	1,435,281[1]	+ 131,068
6. Gas Oil and Diesel Oil	10,539,937	10,548,251	10,685,631	− 137,380
7. Fuel Oil Residuum	70,957,881	71,136,355	70,851,285	+ 285,070
8. All Other Stocks	6,153,809	6,153,809	5,949,173	+ 204,636
TOTAL	158,477,420	158,905,036	157,594,699	+1,310,337
[1]Estimated amount of unfinished gasoline contained in item 5	1,350,379	1,350,379	1,199,560	

Group No. 1	New Rigs Up	Active Drilling	Producers Completed	Daily Initial Output	Active Producing	ABANDONED WELLS Drillers	Producers
Belridge—North	2	7	1	3,100	59	....	....
Belridge—South	..	....	....	....	87	....	....
Canal	1	3	1	928	15	....	....
Canfield Ranch	..	....	....	....	1	....	....
Coalinga	3	6	3	6,461	816	4	3
Coles Levee	2	1	....	....	1	....	....
Edison	..	2	....	....	88	....	....
Elk Hills	..	....	....	....	170	....	....
Fruitvale	3	3	1	240	174	....	....
Greeley	2	6	....	....	11	....	....
Kern River	3	2	1	25	1,369	....	1
Kettleman Middle Dome	..	....	....	....	3	....	....
Kettleman North Dome	..	7	2	2,850	218	1	1
Lost Hills	3	....	....	....	243	....	2
McKittrick	3	3	....	....	187	....	....
Midway-Sunset	4	4	2	340	2,519	5	1
Mountain View	..	....	....	....	189	....	....
Mount Poso	2	1	2	409	265	1	....
Rio Bravo	1	3	....	....	24	....	....
Round Mountain	..	1	....	....	193	1	....
Ten Section	1	1	1	2,982	26	....	....
Tupman	..	....	....	....	....	....	....
Wasco	1	2	....	....	3	....	....
Wheeler Ridge	..	1	....	....	27	....	....
Group No. 2							
Capitan	..	....	....	....	51	....	....
Elwood	..	....	....	....	80	....	1
Rincon	1	....	1	435	51	....	....
San Miguelito	..	1	1	131	19	....	....
Santa Barbara	..	....	....	....	34	....	....
Santa Maria	..	1	1	2,500	304	2	....
Summerland	..	....	....	....	18	....	....
Ventura Avenue	2	9	2	2,463	258	....	....
Ventura-Newhall	..	8	2	1,215	559	3	....
Watsonville	..	....	....	....	7	....	....
Group No. 3							
Brea-Olinda	..	2	....	....	350	....	....
Coyote—East	..	....	2	765	86	....	....
Coyote—West	..	....	....	....	49	....	....
Domingues	..	2	....	....	207	....	....
El Segundo	..	....	....	....	52	....	5
Huntington Beach	2	3	3	350	551	....	2
Inglewood	..	....	....	....	208	....	....
Lawndale	..	....	....	....	6	....	....
Long Beach	..	2	2	319	1,260	....	12
Los Angeles-Salt Lake	..	....	....	....	112	....	....
Montebello	8	9	1	416	221	....	....
Playa Del Rey	..	....	....	....	183	1	....
Potrero	1	1	....	....	13	....	....
Richfield	..	2	....	....	293	1	....
Rosecrans	3	10	2	730	112	1	....
Santa Fe Springs	..	1	....	....	590	....	3
Seal Beach	..	....	....	....	109	....	....
Torrance	13	9	13	2,849	659	1	4
Whittier	..	....	....	....	147	....	....
Wilmington	4	9	7	3,656	590	....	1
Miscellaneous Drilling	10	33	....	....	....	17	....
Group No. 4—Gas Fields							
Buena Vista Lake	..	....	....	....	4	....	....
Buttonwillow	..	....	....	....	26	1	....
Chowchilla	..	....	....	....	....	....	....
Delano	..	....	....	....	....	....	....
Dudley Ridge	..	....	....	....	....	....	....
Goleta	..	....	....	....	....	....	....
McDonald Island	..	....	....	....	5	....	....
Rio Vista	..	....	....	....	22	....	....
Semi-Tropic	..	....	....	....	1	....	....
Tracy	..	....	....	....	5	....	....
December	75	155	51	33,164	13,930	39	36
November	72	160	65	69,534	13,785	23	14
Decrease (*Increase)	3*	5	14	36,370	145*	16*	22*
Average for year 1938	96	207	83	76,738	13,621	22	23
Average for year 1937	124	264	97	51,480	12,954	26	21



The Union Producing Company's Minnie Brown No. 1 Well

Down to the bottom of one of the deepest wells in Texas!

with a SYFO GO-DEVIL!

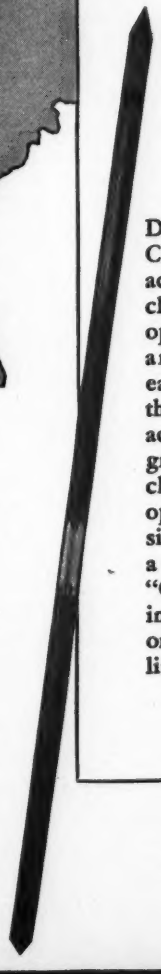
Another drilling record with the aid of the Self-Checking SYFO Clinograph

Congratulations to the Union Producing Company for drilling the Minnie Brown No. 1 in the Agua Dulce field—considered one of the deepest tests ever drilled in Texas!

The Sperry-Sun SYFO Clinograph was used in checking inclinations while drilling. Over 114 records were made. The instrument was used at first on the Halliburton Wire line. At a greater depth it was run as a "Go-Devil" and fished out with a core barrel overshot, or alternatively recovered when the drill stem was pulled out of the hole. The mud, at the greater depths, weighed up to 13 pounds per gallon, with a viscosity of 28 to 30.

Drillers everywhere may expect equally good performance wherever the SYFO "Go-Devil" is used.

Daily use of the Syfo Clinograph permits accurate control of inclination in drilling operations. The tests are accurately and easily made without the use of dangerous acids. The Syfo Clinograph is speedy, self-checking, simple to operate, and inexpensive. Can be used on a wire line or as a "Go-Devil" running inside the drill stem or on sand or bailing line in open hole.



SPERRY-SUN WELL SURVEYING COMPANY

1608 Walnut Street, Philadelphia, Pa.

Tulsa, Oklahoma	Houston, Texas	Long Beach, Calif.	Bakersfield, Calif.	Lafayette, La.	Corpus Christi, Texas	Santa Barbara, Calif.
425 Petroleum Bldg.	3118 Blodgett Ave.	549 E. Bixby Road (3800 Block—Atlantic Ave.)	c/o Elks Club 17th and I Streets	Bonnet Building Cor. Lafayette & W. Vermillion Sts.	332 N. Morningside Drive	1409 E. Valley Road

The Oil and Gas Fields of Kern County

Where Discoveries are Becoming Routine

By Paul J. Howard*
Chief Appraisal Engineer
Office of Tom Burke, Kern County Assessor

Introduction:

The southern portion of the great San Joaquin Valley of California lies in the western half of Kern County. The mountains surrounding this area lie like a huge horse shoe with the open end to the northwest, the Sierra Nevadas on the East, the Coast Ranges on the West, and the connecting mountains, called the transverse mountains or Los Angeles Ranges on the South. The San Joaquin Valley, like a huge trough, has been under water a great part of the time from Jurassic times to the present. During these millions of years thousands upon thousands of feet of marine sediments have been collecting together with non-marine deposits during the latter part of the period represented. Sometimes there are alternating marine and fresh water sediments together with their distinctive fossils. The total thickness of all of these sediments is well in excess of three miles in the central portion of the Valley. The remains of microscopic, and larger, organic life has been deposited with the sands and clays and is the source material for the oils of our Valley.

During these millions of years the crust of the earth has been contorted resulting in uplifts, folding and faulting. Oil and gas have separated from the water due to difference in gravity and have collected in the highest positions to which migration was possible. Thus we have accumulations in the top of wrinkles (anticlines and domes) and in the upper portion of inclined sands (homoclines and monoclines) where the sands have been sealed by faulting or pinching or lensing out. All of the East Side fields are the result of accumulations of oil on inclined slopes which dip in a westerly direction and most of which are sealed by intersecting faults on the East and Northeast where impervious clays and shales have been moved against the upper edges of the oil sands, thus preventing further migration easterly. Some of the East Side productive areas are the result of old shore lines or lenses of sand pinching out up dip toward the East, or toward the South in the case of the Grape Vine field. On the West Side of the Valley faulting plays a far less prominent part in the oil accumulations. Here we have a huge homoclinal structure extending from below Maricopa almost to McKittrick in which oil and gas have migrated to the West as far as possible to where the sands were sealed against the flanks of older formations rising from below. We have huge anticlinal fields extending valleyward from the homoclinal valley edge fields together with anticlinal accumulations separated entirely from the westerly valley limits. Also there are anticlinal accumulations in the Miocene rocks which outcrop in the foothills of the Coast Ranges along the Valley edge. All of the new mid-valley fields are either anticlinal accumulations or shore line deposits along structural noses extending valleyward from the sides of the valley.

*Petroleum Engineer and Geologist.

Paul J. Howard

Because of the huge areas of possible oil land which have not yet been explored we have reason to expect the discovery of many new fields in the years to come.

In the following pages the writer has attempted to present a brief outline of the pertinent data regarding the various oil and gas fields of Kern County. The data has been gathered during many years of service as Petroleum Engineer with the State Division of Oil and Gas and from the records in the Assessor's office. Many engineers and geologists have assisted greatly in furnishing data for this report and various issues of "Summary of Operations, California Oil Fields," have been consulted freely during its preparation.

Mount Poso Oil Field
(Discovered 1927)

Location: 12 miles N.N.E. of Bakersfield. Townships 26/27, 26/28, 27/27, 27/28.

Separate Areas:

Main Area: Tp. 27/28, Sec. 4, 5, 8, 9, 10, 15, 16, 21, 22, 27 and 28.

Vanguard Area: Tp. 27/28, Sec. 28, 33 and 34.

Chevalier Area: Tp. 27/28, Sec. 3.

Dorsey Area: Tp. 27/28, Sec. 26 and 35.

Dominion Area: Tp. 26/28, Sec. 20, 21 and 28.

Ring Area: Tp. 26/28, Sec. 29 and 32.

Recovery Area: Tp. 26/28, Sec. 33 and 34.

Topography: Steep hills.

Type of Oil Accumulations: Homoclinal accumulations on West side of intersecting faults which run in North to Northwest direction.

Geological Horizons Productive: Upper Vedder zone (Miocene-Vaqueros) in all areas. Lower Vedder in limited portion of Main Area only.

Thickness of Oil Sands: 14 to 240 feet. Upper Vedder sand 80 to 100 feet thick. Not all produced because zone plunges below water table at west side of the various areas. Amount of formation that can be produced depends upon thickness of sands above a relatively flat water table.

Well Depths: 1450 to 2000 feet, average about 1800 feet.

Number of Producing Wells (1937): 255. Potential: 316.

Average Well Size: 85 bbls. per day. Cut 62.5% fresh water.

Gravity of Oil: 14° to 17° A.P.I. Negligible amount of gas produced.

Method of Production: Wells completed as pumpers.

Bbls. of Oil Produced in 1937: 6,574,938.

Total Field Production to End of 1937: 36,899,789 bbls.

Proved Acreage at End of 1937: 2210.

Total Cumulative .Production per Acre: 16,690 bbls.

Round Mountain Oil Field
(Discovered 1927)

Location: 9 miles N.E. of Bakersfield. Townships 28/28 and 29/28.

Separate Areas:

Main Area: Tp. 28/28, Sec. 12 and 13. Tp. 28/29, Sec. 7, 17, 18, 19, 20, and 29

Coffee Canyon: Tp. 28/28, Sec. 1, Tp. 28/29, Sec. 6, 7, and 18.

Olcese: Tp. 28/29, Sec. 21.

Eastmont: Tp. 28/29, Sec. 16.

Crestmont: Tp. 28/29, Sec. 8, 16, and 17.

Topography: Steep hills.

Type of Oil Accumulations: Homoclinal accumulations on West side of intersecting faults which run in North to Northwest direction.

Geological Horizons Productive: Upper Vedder zone (Vaqueros-Miocene) except that part South of Jewett cross fault lying about 0.7 mile North of South end of Main Area and the Olcese Area. Jewett zone (bottom part sometimes called Elbe) productive south of Jewett fault and in Olcese Area. Jewett zone overlies Vedder but also of Vaqueros age.

Thickness of Oil Sands: Vedder 40 to 104 feet thick. Jewett Silts and Sands (sands about 30%) 600 feet thick. Amount of zone produced depends upon thickness above relatively flat water table and upon some intermediate waters.

Well Depths: 1500 to 2250 feet. Average about 1800 feet.

Number of Producing Wells (1937): 163. Potential: 195.

Average Well Size: 101 bbls. per day. Cut 38.5% fresh water.

Gravity of Oil:

Jewett zone: 19° to 21° A.P.I.

Vedder zone: 14° to 18° A.P.I.

Method of Production: Wells completed as pumpers. Negligible amount of gas except in limited area near fault

THROUGH CONSTANT ENGINEERING DEVELOPMENT

H.C.SMITH ROCK BITS

MEET TODAY'S DRILLING PROBLEMS WITH

Speed
Economy
Safety

The H. C. SMITH ROCK BIT incorporates the outstanding features of both the cross roller and cone type bit. The bit is vented for free and full circulation at high pump speeds. The gauge cutters are unit assemblies screwed onto shank pins of the bit and positively locked in position. The cross roller assembly is mounted upon an extra heavy, special alloy cross pin, which is welded into and made part of the bit.

Cutter teeth are designed for the particular type of formation encountered, and are supplied according to requirements. The cross roller is supplied with either two or four cross cutters. All teeth are heavily faced and inset with tungsten carbide for lengthy service and to retain full gauge hole.

H C Smith Oil Tool Co.

GENERAL OFFICES AND PLANT - P.O. BOX 431, COMPTON, CALIF.

Branches: Bakersfield · Ventura · Santa Maria

in Main Area of Field in Sec. 17 and 20, Tp. 28/29.

Bbls. of Oil Produced in 1937: 4,874,947.

Total Field Production to End of 1937: 16,689,464 bbls.

Proved Acreage at End of 1937: 1660.

Total Cumulative Production per Acre: 10,050 bbls.

Edison Oil Field
(Discovered in 1934)

Location: Ten miles E.S.E. of Bakersfield, Tp. 30/29.

Separate Areas:

East Edison: Sec. 10, 13, 14, 15, 22, 23, and 24.

West Edison: Sec. 16 and 21.

Sec. 5 Areas: (2 wells widely separated).

Topography: Flat lands just West of foothills.

Type of Oil Accumulations: East Edison: Quite lenticular sands in homoclinal strata dipping Southwest. Sands appear generally to be old shore line deposits which pinch out to the Northeast. Faulting plays a minor part in the accumulations. Deeper sands lies farther West.

West Edison: Homoclinal accumulations on West side of fault which runs North to Northwest.

Geological Horizons Productive: East Edison: Kern River series including Chanac—(Pliocene) main source of oil. Oil is from several zones. Santa Margarita—Upper Miocene productive in isolated spots. Some oil comes from Jewett Silt—Vaqueros—Lower Miocene. Some oil accumulated in the terrestrial Walker sands and gravels—Vaqueros, which immediately overlie the granite.

West Edison: Chanac and Santa Margarita.

Thickness of Oil Sands: 50 to 500 feet of formation open. Probably averages about 35% sand.

Well Depths: East Edison: 1000 to 3576 feet. West Edison: 2890 to 3570 feet.

Number of Producing Wells (1937): 87. Potential: 96.

Average Well Size: 50 bbls. per day. Cut 24% water.

Gravity of Oil: 14° to 28° A.P.I. No commercial gas production.

Method of Production: Wells nearly always completed as pumpers. Flowing wells are exceptional.

Bbls. of Oil Produced in 1937: 1,563,094.

Total Field Production to End of 1937: 4,655,715 bbls.

Proved Acreage at End of 1937: 1250.

Total Cumulative Production per Acre: 3,723 bbls.

Poso Creek Oil Field
(Separate Designation 1934)

(Not actively developed until 1934)

Location: 10 miles N.E. of Bakersfield. Townships: 27/27 and 28/27.

Separate Areas:

Premier: Tp. 27/27, Sec. 29 and 32. Tp. 28/27, Sec. 4, 5, 8, 9, 16, and 17.

McVan: Tp. 27/27, Sec. 10, 11, 14, 15, and 23.

Little & Gilstrap: Tp. 27/27, Sec. 20.

Agey: Tp. 27/27, Sec. 28.

Topography: Rolling hills except steep hills in McVan Area.

Type of Oil Accumulations: Homoclinal accumulations on West side of faults which run in North to Northwest direction.

Geological Horizons Productive: Contact Zone (Etchegoin-Chanac contact)—Pliocene. In South part of Main Area production extends well into Chanac.

Thickness of Oil Sands: 40 to 240 feet of formation open. Probably not over 35% sand as an average.

Well Depths: 1200 feet in McVan Area to 2900 feet in S.W. part of Premier Area.

Number of Producing Wells (1937): 60. Potential: 69.

Average Well Size: 38 bbls. per day. Cut 34% water.

Gravity of Oil: 12° to 15° A.P.I. No commercial gas production.

Method of Production: Wells completed as pumpers.

Bbls. of Oil Produced in 1937: 817,023.

Total Field Production to End of 1937: 1,691,391 bbls. (Does not include a little production prior to time of designation as Poso Creek Oil Field in 1934).

Proved Acreage at End of 1937: 690.

Total Cumulative Production per Acre: 2,450 bbls.

Kern Front Oil Field
(Discovered in 1912)

Location: About 7 miles N.W. of

From top to bottom

IT'S ALL BIT

From top to bottom the Crum-Brainard Roller Bit is built to give **fast, straight, full-gauged hole** with far less applied weight on bottom.

And from top to bottom **of your well** this husky bit will give unbeatable performance in all kinds of digging!

Crum-Brainard Bits are built to last. They are engineered throughout to drill the kind of long, **straight hole** that has made them famous in practically every important oil field in the world.

Specify these efficient drilling tools for all your current drilling jobs—and watch your costs go down.

Write for Descriptive Folder.

Crum Brainard

MAGNOLIA AT BOULEVARD ★ WHITTIER, CALIFORNIA

BRANCH WAREHOUSES

PETROLEUM SERVICE CO., SANTA MARIA, CALIF. ★ VALLEY WAREHOUSE, BAKERSFIELD, CALIF. ★ B & G SERVICE CO., AVENAL, CALIF.

Bakersfield. Townships: 28/27, Sec. 2, 10, 11, 14, 15, 16, and 21-27 incl.

Topography: Rolling hills.

Type of Oil Accumulation: Several overlapping homoclinal zones pinching out up structure to the E.N.E. with the deepest zone lying farthest to the S.W. A fault running about N. & S. limits production on the E. side of the field.

Geological Horizons Productive: Wonder, Lehnhardt, and Tegeler Zones (descending order) ranging from Kern River (terrestrial) through Etchegoin (marine) to the Etchegoin-Chanac contact zone (Tegeler) all of Pliocene age.

Thickness of Oil Sands: Generally 150 to 400 feet of zone open, though some wells run as low as 75 feet. Formation probably consists of about 50% sand on the average.

Well Depths: 1400 to 2700 feet (Northeast to Southwest).

Number of Producing Wells (1937): 409. Potential: 519.

Average Well Size: 26 bbls. per day. Cut about 50% water.

Gravity of Oil: 12° to 15.2° A.P.I.

Method of Production: Wells completed as pumpers. No commercial gas production.

Bbls. of Oil Produced in 1937: 3,803,136 (not incl. lease usage).

(See Kern River Field for rest of statistics. State Division of Oil and Gas carries Kern River Field as including Kern Front.)

Kern River Oil Field
(Discovered in 1900)

Location: 4 miles N. E. of Bakersfield. Townships: 28/27, Sec. 13, 25, and 36. 28/28, Sec. 19, 20, 21, and 28-34 incl. 29/28, Sec. 2-6 incl. and 8-11 incl.

Topography: Rolling hills and river flats.

Type of Oil Accumulations: Homoclinal accumulation dipping to West. Oil is accumulated in sands which pinch out toward the East. Faulting plays only a minor part in the accumulation.

Geological Horizons Productive: Kern River Series (Continental deposits) Pliocene and possibly Pleistocene.

Thickness of Oil Sands: 100 to 600 feet of formation open. Probably about 65% sand on the average.

Well Depths: 200 feet at East edge to 1200 feet at West edge.

Number of Producing Wells 1937: 852. Potential: 2,000 (est.).

Average Well Size: 2.5 bbls. per day. Cut 85% fresh water.

Gravity of Oil: 12° to 14° A.P.I.

Method of Production: Wells completed as pumpers. No commercial gas production.

Bbls. of Oil Produced in 1937: 909,063. (Not including lease usage). Total Field Production to end of 1937: State Division of Oil and Gas combines Kern River and Kern Front as one Field. Following statistics from combined areas.

Bbls. of Oil Produced in 1937: 4,970,-117 (incl. lease usage).

Total Production to End of 1937: 310,294,233 bbls.

Proved Acreage at End of 1937: 10,-433.

Total Cumulative Production per Acre: 29,780 bbls.

Fruitvale Oil Field
(Discovered in 1928)

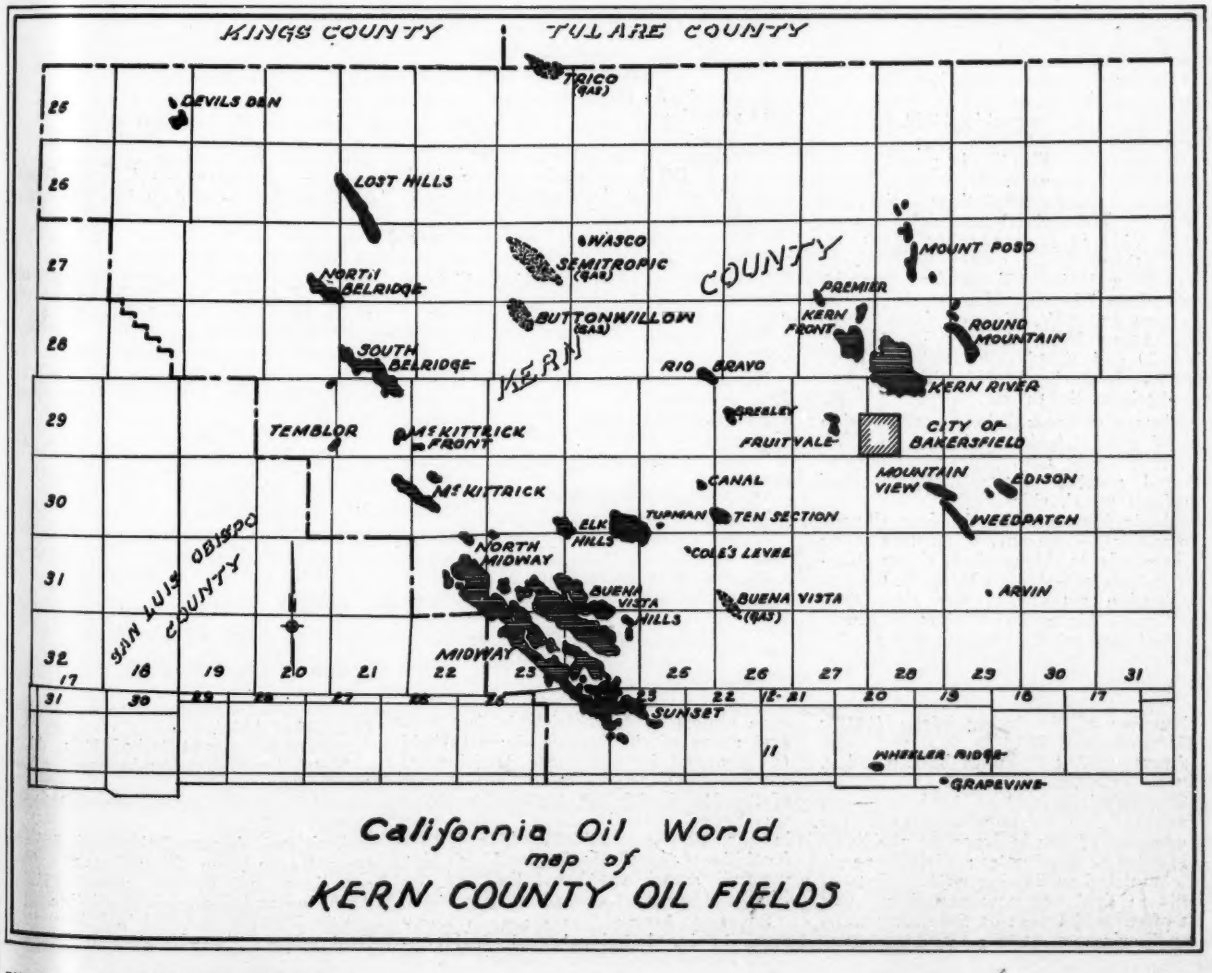
Location: About 2 miles West of Bakersfield. Township: 29/27.

Separate Areas:
Main Area: Sec. 21, 22, 26, 27, and 28.
Fairhaven: Sec. 14, 15, 22, and 23.

Topography: Flat river bottom and delta. Portions of Field easily flooded.

Type of Oil Accumulations: Several zones of different relative depths on a nose which plunges to the West. Oil accumulations in these zones are limited in areal extent and no oil zone can be said to be continuous over the entire field. The Main Area of the Field is limited on the East by a fault running approximately through the center of Sec. 22 and about ¼ mile North of the center of Sec. 26. The Fairhaven Area is limited on the East by a fault running approximately through the N. ¼ cor. and S.E. cor. of Sec. 23.

Geological Horizons Productive: Tar sands occur in the Etchegoin (Jacalitos) —Pliocene above the Chanac contact but the true oil sands start with the Contact zone and extend, at intervals,



California Oil World
map of
KERN COUNTY OIL FIELDS

downward through the Chanac (terrestrial)—Pliocene. Underlying Santa Margarita-Upper Miocene is unproductive. The zones are called by the following names in order of depth: Fairhaven or Contact, Parker, Martin, and Kernco.

Thickness of Oil Sands: Separate oil zones being produced vary from 25 to 400 feet in thickness.

Well Depths: 2690 to 4200 feet.

Number of Producing Wells (1937): 160. Potential: 172.

Average Well Size: 60 bbls. per day. Cut 13% water.

Gravity of Oil: 14.5° to 24.8° A.P.I.

Method of Production: Most wells completed as pumping wells although there are quite a number of wells that flow. Many wells produce sufficient gas for lease use but there is no real commercial production of gas.

Bbls. of Oil Produced in 1937: 3,234,462.

Total Field Production to End of 1937: 15,191,536 bbls.

Proved Acreage at End of 1937: 1710.

Total Cumulative Production per Acre: 8,881 bbls.

Mountain View Oil Field
(Discovered 1930)

(Not actively developed until 1933)

Location: 6 miles S.E. of Bakersfield. Townships: 30/28, 30/29 and 31/29.

Separate Areas:

Main Area (North): Township 30/28, Sec. 13, 14, 23, and 24. Township 30/29, Sec. 18 and 19.

Main Area (South): Township 30/28, Sec. 24 and 25. Township 30/29, Sec. 19, 29, 30, 32, and 33. Township 31/29, Sec. 4, 5, and 9.

Discovery Area: Township 30/29, Sec. 29.

Derby Area: Township 30/29, Sec. 33. Township 31/29, Sec. 4.

Topography: Flat lands partially developed in vineyards.

Type of Oil Accumulation: Main Area (North): Homoclinal accumulations on South side of fault running about W. N.W. through the center of S.W. ¼ Sec. 14 and the S.E. cor. of Sec. 18. Main Area (South): Homoclinal accumulations on S.W. side of fault which runs about N.W. through W. ¼ cor. Sec. 29 and E. ¼ cor. Sec. 32. Fault swings westerly at North end and southerly at South end.

Discovery Area: Minor accumulation on W. side of fault running N. to N.W.

Derby Area: Lenticular thin sands of limited areal extent possibly cut off by fault on E. side.

Geologic Horizons Productive: Chanac (terrestrial)—Pliocene, Transition Zone (Chanac-Santa Margarita), Santa Margarita (marine)—Upper Miocene. Chanac production extends farther East than the Santa Margarita productive limits.

Thickness of Oil Sands: 150 to 500 feet of formation open. Averages 50 to 60% sand.

Well Depths: 4200 to 6300 feet.

Number of Producing Wells (1937): 185. Potential: 200.

Average Well Size: 101 bbls. per day. Cut about 30% water.

Gravity of Oil: 22° to 32° A.P.I. Field produces much commercial gas, though production of gas is dropping rapidly.

Method of Production: Wells generally completed as flowing wells. Most of wells in field are now pumping. Gas lift often used for short time after wells stop flowing.

Bbls. of Oil Produced in 1937: 6,697,315.

Total Field Production to End of 1937: 28,929,435 bbls.

Proved Acreage at End of 1937: 1890.

Total Cumulative Production per Acre: 14,760 bbls.

Grapevine Oil Field
(Discovered in 1936)

Location: 28 miles South of Bakersfield and about 2 miles East of 99 Highway. Township 11/19, Sec. 33.

Topography: Gently sloping range land.

Type of Oil Accumulation: Probably very limited lenticular deposit which may be greatly complicated by faulting. Gas may be brought by faulting from some distance. Homocline dips to North.

Geological Horizon Productive: Middle Monterey — Miocene. Production is from above the **valvulineria californica** zone.

Thickness of Oil Sand: Up to 200 feet of formation open.

Well Depths: 4440 feet and 4634 feet.

Number of Producing Wells (November 1938): 2.

Well Size: Wells good for about 100 bbls. per day.

Gravity: 20° to 23° A.P.I.

Gas: One well will make several million cubic feet of gas per day.

Method of Production: One well flows, one is pumped.

Bbls. of Oil Produced in 1937: 4198.

Total Field Production to End of 1937: 4198 bbls.

Proved Acreage at End of 1937: 40.

Wheeler Ridge Oil Field
(Discovered in 1922)

Location: 33 miles South of Bakersfield and 21 miles East of Maricopa. Township: 11/20, Sec. 27 and 28.

Topography: Steep hills.

Type of Oil Accumulations: Anticlinal. Axis of anticlinal almost East and West.

Geological Horizons Productive. Etchegoin-Pliocene and Santa Margarita —Uppermost Miocene.

Thickness of Oil Sands: Numerous stringers of sand extending from the tar sands at 1500 feet to 4150 feet or more.

Well Depths: Average 2100 feet to 4100 feet.

Number of Producing Wells (1937): 29. Potential: 34.

Average Well Size: 12 bbls. per day. Cut 28% water.

Gravity of Oil: 22° to 30° A.P.I. Average 23°.

Method of Production: Pumping.

Bbls. of Oil Produced in 1937: 118,201.

Total Field Production to End of 1937: 3,465,984 bbls.

Proved Acreage at End of 1937: 285.

Total Cumulative Production per Acre: 12,160 bbls.

Midway-Sunset Oil Field
(Discovered in 1900)

Location: Covers huge area. Extends from 3 miles S. and 5 miles E. of Maricopa almost to McKittrick, in fact several areas of the Midway-Sunset Field (as grouped by the State Division of Oil and Gas) are geologically really part of the McKittrick Oil Field. The Midway-Sunset Field is about 7 miles wide in the vicinity of Taft. The higher foothills of the Coast Range Mountains generally mark the West limit of the Field.

Separate Areas: There are so many areas having individual geological conditions that no attempt will be made to describe all of them.

Topography: Varies from steep hills to flat lands all covered with sagebrush, typical desert conditions.

Type of Oil Accumulation: Largest area of field has homoclinal accumulations of oil in one to three overlapping zones which have a general dip to the Northeast. Production is limited to the Southwest by pinching out of zones as underlying Brown Shale — Maricopa Shale—Miocene outcrops in the foothills of the Coast Ranges. Within the limits of the Field are many anticlinal accumulations. These anticlines generally extend outward from the main homoclinal flank though in certain areas there are anticlines in the Brown Shale parallel and near the outcrop which have N.W. and S.E. axes. In certain areas there are accumulations of oil in truncated lenses of the Brown shale which have been sealed by the overlying Pliocene formations. Faulting plays only a very minor part in the accumulations of oil in the Midway-Sunset field as a whole. Its chief effect is at the Southeast end of the Buena Vista Hills where oil in the Scalez and Sub Bittium (or Sub Mulinia) zones has accumulated Southeast of a series of faults running approximately N.E. and S.W. In some cases oil is being produced from fractured Brown shale zones rather than from true oil sands.

Geological Horizons Productive: In the Buena Vista Hills commercial gas production is available from the upper portion of the San Joaquin sands and clays of lower Pleistocene Age. There is probably no oil production from the Pleistocene. Oil production comes from the San Joaquin Clays (sands in lower portion) Pliocene, Etchegoin—Pliocene, Santa Margarita — Uppermost Miocene, and from the Brown Shale—Maricopa Shale — Monterey — Upper Miocene. No Temblor — Middle Miocene or Vaqueros — Lower Miocene production has yet been developed.

Thickness of Oil Sands: Vary from almost nothing to several hundred feet.

Well Depths: 600 to 5000 feet. (Many wells have been drilled deeper but have not secured production.)

Number of Producing Wells 1937: 2547. Potential 3875.

Average Well Size: 32 bbls. per day. Cut 48% water.

Gravity of Oil: 10° to 28° A.P.I.

Gas: Dry gas zones in Buena Vista Hills overlie oil horizons. Much gas has been produced with the oil from the oil zones in this area. Much gas stored at times in Buena Vista Hills. Buena Vista Hills portion of Midway-Sunset Oil Field is the only large gas producing area.

Method of Production: Many wells flowed in early days. Almost all wells are now pumpers.

Bbls. of Oil Produced in 1937: 26,523,068.

Total Field Production to End of 1937: 832,514,769 bbls.

Proved Acreage at End of 1937: 44,269.

Total Cumulative Production per Acre: 18,820 bbls.

Additional Data Regarding Midway-Sunset Field.

Anticlinal Accumulations of Oil and Gas: Buena Vista Hills: Consists of two anticlines, end to end, namely United Anticline and Honolulu Anticline. Dry gas in Pleistocene. Oil in Pliocene and Santa Margarita—Uppermost Miocene.

ORDER NOW!

California OIL WORLD Directory

1938-1939

A QUICK, READY REFERENCE DIRECTORY, BRINGING TO OIL EXECUTIVES ALL IMPORTANT FACTS, FIGURES AND PERSONNEL INFORMATION, SIMILAR TO DIRECTORIES NOW AVAILABLE TO EXECUTIVES IN OTHER BRANCHES OF INDUSTRY — PLUS MORE THAN 30 PAGES OF LARGE SCALE UP-TO-DATE MAPS OF ALL CALIFORNIA OIL FIELDS.

WHAT IT WILL CONTAIN

Between the two covers of California Oil World Directory you will find a wealth of data never before contained in a single volume for quick reference.

All important 1938 statistical information will be available as promptly as it can be compiled and printed — Drilling Operations — Crude Oil Production — Well Completions — Gas Production — Crude Oil Prices — Gasoline and Crude Oil in Storage — Production Figures by Operators — Complete Field Data — and other facts and figures from the inception of oil operations in California up to and including December 31, 1938.

THE NEW DIRECTORY

Of even greater importance than the Statistical Information, will be a complete Directory of all Western Oil Operators, listing not only the names, addresses, officers, field and refinery superintendents, corporate details and financial structures, but facts as to land holdings, proven acreage, number of wells, refineries, pipe lines, marketing facilities and figures on production and sales by products.

NAMES OF OPERATING PERSONNEL

A further important feature will be the listing, by companies, of the operating personnel in the Drilling, Producing, Refining and Marketing Branches of the entire Western Petroleum Industry — the men who buy or approve the purchase of the countless products required by all of these branches.

MORE THAN 30 PAGES OF MAPS

An added, extra value of California Oil World Directory will be maps of all California Fields, revised to the latest date before going to press. All maps will show the names of land owners or operators — status of wells completed or drilling — and will be produced on a legible scale from original maps prepared by an outstanding map-making organization.

This map section alone will definitely be worth many times the $5.00 subscription cost of the Directory.

GUARANTEED COVERAGE AT LOW COST

The minimum number of copies of California Oil World Directory to be distributed will be 2,000, of which approximately 1,500 copies will be used by oil operators for at least an entire year as they refer time and time again to the facts, figures and maps which are a vital part of their daily operations.

Full pages in California Oil World Directory are priced at $250.00, which includes printing of your advertisement in black and your choice of four standard colors, orange, blue, red or yellow; one-half page advertisements are priced at $125.00; one-quarter pages at $75.00 when printed only in black. Advertisements will be run facing pages containing statistical data, personnel listings and maps, and early reservations will insure a choice location for your advertisements.

START HERE by returning the coupon, or telephone RIch. 2136 to get ALL DETAILS and to reserve best space.

OKAY — Connect me up to CALIFORNIA OIL.

- ☐ send complete information
- ☐ have representative call
- ☐ reserve _____ pages space
- ☐ reserve _____ copies of California Oil World Directory at $5 per copy.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____

...RNIA'S FAVORITE OIL ...ATION FOR OVER 30 ... CALIFORNIA OIL ... NOW ISSUED TWICE ...LY AND GROWING IN ...D POPULARITY WITH ...VERY ISSUE!

AND NOW — THE CONNECTING LINK IN THIS CHAIN OF SERVICES SO IMPORTANT TO BOTH OIL COMPANIES AND SUPPLIERS — CALIFORNIA OIL WORLD DIRECTORY, AN ANNUAL DATA BOOK OF FACTS - FIGURES - PERSONNEL OF THE WESTERN PETROLEUM INDUSTRY.

THE OUTSTANDING WEEKLY SCOUTING AND NEWS SERVICE, INCLUDING LATEST REPORTS ON *EVERY* DRILLING WELL — CALIFORNIA OIL WORLD NEWS SERVICE.

California OIL WORLD Directory

Not thoroughly tested below Santa Margarita.

Globe Anticline: Oil in Pliocene.

Spellacy Anticline: Oil in Pliocene.

35 Anticline: Oil in Pliocene. Some wells near S.E. end obtain production from lenses in Brown (Maricopa) Shale —Miocene.

Republic Area: Oil from sand lense in Brown Shale.

Williams Area: Oil from sand lense in Brown Shale.

Hovey Hills (Evans) Area: Same.

Truncated Lenses of Sand in Brown Shale—Miocene:

Lakeview Area.

Gibson Area.

Hoyt Area.

Signal Area.

Homoclinal Accumulations: Most of the production extending from the hills valleyward is of this type.

Elk Hills Oil Field (Discovered in 1910)
Not actively developed until 1919.

Location: About 20 miles W.S.W. of Bakersfield and 10 miles N.E. of Taft.

Township: 30/23, Sec. 25, 26, 35, and 36.

Township: 31/23, Sec. 1, Township 30/24, Sec. 25-36, incl. Township 31/24, Sec. 1-6, incl. Township 30/25, Sec. 31. Township 31/25, Sec. 6.

West part of above area is known as central portion of Elk Hills or Carman-Hay Area. Field possibly extends many miles West of area listed above but is held as U. S. Naval Reserve. There is much undeveloped land between the East end of Elk Hills and the Carman-Hay Area.

Topography: Rolling to steep hills covered with sagebrush.

Type of Oil Accumulation: Anticlinal. Many faults effect accumulation and drainage to some extent. Axis runs almost E. and W. Plunges to East.

Geological Horizons Productive: East End: Scalez Zone—Pliocene portion of San Joaquin clays, and Etchegoin-Pliocene. Central Portion: Etchegoin-Pliocene.

Thickness of Oil Sands: Oil sands occur in a zone running to 450 feet thick but sands themselves are probably not over 60 feet thick. Amount of sand that can be produced depends upon water conditions.

Well Depths: 2900 to 3500 feet.

Number of Producing Wells at End of 1937: 174. Potential: 308.

Average Well Size: 67 bbls. per day. Cut 61% water.

Gravity of Oil: 15.4° to 35.4° A.P.I. Commercial gas is available though little is produced at present.

Method of Production: Pumping.

Bbls. Oil Produced in 1937: 3,775,577.

Total Field Production to End of 1937: 142,141,879 bbls.

Proved Acreage at End of 1937: 7648.

Total Cumulative Production per Acre: 18,590 bbls. (Production per acre in developed portion will be much higher.)

McKittrick-Temblor-Cymric Oil Fields
(Discovered in 1898)

Location: McKittrick Field: Just West of town of McKittrick. Township 30/22, Sec. 6, 7, 8, 18, 19, 20, 28, and 29. Township 30/21, Sec. 11, 12, 13, and 14. Township 29/22, Sec. 32.

Temblor Field: 10 miles W.N.W. of McKittrick. Township 29/20, Sec. 36.

Cymric Field: 10 miles N.W. of McKittrick. Township 29/21, Sec. 26.

Topography: Hilly sagebrush country in general although part of the McKittrick Field and the Cymric Field are quite flat.

Type of Oil Accumulation:

McKittrick Field: Homoclinal accumulation against N.E. side of overthrust fault in which Miocene formations thrown over Pliocene formations. Fault runs about N.W. and S.E. through center of Sec. 13/30/21, and S. ¼ cor. Sec. 20/30/22. East side down thrown.

Temblor Field: South flank of small anticline.

Cymric Field: Two small closely spaced anticlines.

Franco-Western Area of McKittrick Field (Sec. 7 and 8, 30/22): Anticlinal. Axis of Anticline N.W. and S.E.

Geological Horizons Productive: McKittrick main area: San Joaquin clays—Pleistocene and Pliocene, and Etchegoin-Pliocene. Franco-Western Area: Contact Zone (Pliocene-Santa Margarita contact). Temblor Field: Temblor-Middle Miocene. Cymric Field: Tulare-Pleistocene.

Thickness of Oil Sands: 10 to 550 feet.

Well Depths: McKittrick main area: 300 to 1200 feet. Franco-Western: 2160 to 2515 feet. Temblor Field: Average 300 feet. Cymric Field: Average about 1150 feet.

Number of Producing Wells All Areas (1937): 216. Potential: 335.

Average Well Size (combined areas) 1937: 22 bbls. per well per day. Water cut 84%. Franco-Western: 65 bbls. per day. Temblor: 2 bbls. per day. Cymric: 6 to 35 bbls. per day.

Gravity of Oil: Main Area: 12° to

GUARANTEED
THE BEST - FOR LESS - PER FOOT

Roller-Bearing Cutter REAMERS
●
Hydraulic Expansion Wall Scrapers
●
Underreamers and Rotary Hole Enlargers
●
Hydrostatic Bailers and Cleaners
Liner Pullers

Export Office
30 Rockefeller Plaza
New York City

Quick---Baby Swallowed a Button - - - - - - - - He's Choking!

Out goes the ambulance . . . in double-quick time baby is on the operating table. The doctor picks up a long slim instrument with a tiny globe glowing on the tips. Skillfully he inserts it in the baby's throat . . . sighting along it as though making a difficult shot . . . a click . . . a deft manipulation . . . and the button is removed.

Bronchoscopes and oil tools . . . an incongruous comparison . . . but as a simile quite logical . . . particularly when compared with the GRANT Hydrostatic Perforation Cleaner. Quickly and skillfully it removes sand, mud, paraffine, asphalt and other materials from the clogged pores of the formation allowing them to "breathe" again. Many wells cleaned by the GRANT method have doubled previous production. Send for proof.

GRANT OIL TOOL COMPANY

Main Office and Plant—2042 E. VERNON AVENUE - - - - - - - - LOS ANGELES, CALIFORNIA

20.5°. Franco-Western: 12.3° to 18.4°. Temblor: 15°. Cymric: 12.5° A.P.I.

Method of Production: Pumping.

Bbls. of Oil Produced in 1937: 1,278,571.

Total Field Production to End of 1937: 86,524,948 bbls.

Proved Acreage at End of 1937: 1565.

Total Cumulative Production per Acre: 55,250 bbls.

South Belridge Oil Field (Discovered in 1911)

Location: About 25 miles Northwest of Taft. Townships: 28/20, Sec. 24. 28/21, Sec. 19 and 23-34, incl. 29/21, Sec. 2, 3, 4, 10, and 11.

Topography: Almost flat, sagebrush land.

Type of Oil Accumulation: Anticlinal. Axis waving but with general N.W. and S.E. direction. Axis plunges rapidly to S.E. and flattens to N.W.

Geological Horizons Productive. Etchegoin-Pliocene, Contact Zone (Etchegoin-Santa Margarita), and Santa Margarita-Upper Miocene. Upper zone missing in northern part of area.

Thickness of Oil Sands: 2 to 70 feet.

Well Depths: 650 to 3500 feet.

Number of Producing Wells (1937): 160. Potential about 270.

Average Well Size: 7 bbls. per day. Cut about 40% water.

Gravity of Oil: 10° to 29° A.P.I. Some commercial gas.

Method of Production: All wells now pumpers, although in early days some wells flowed.

Bbls. Oil Produced in 1937: About 608,-200. (Annual statistics of State Division of Oil and Gas combine North and South Belridge.)

Proved Acreage at End of 1937: About 1500 acres.

North Belridge Oil Field (Discovered in 1915)

(Temblor Zone Discovered in 1930, Bloemer Sand and Belridge Sand Discovered in 1932)

Location: About 32 miles Northwest of Taft Township: 27/20, Sec. 21, 22, 26, 27, 28, 34, 35, and 36. Township: 27/21, Sec. 1 and 2.

Topography: Flat to low rolling hills.

Type of Oil Accumulation: Anticlinal. N.W.-S.E. Axis.

Geological Horizons Productive. Tulare - Pleistocene, Etchegoin - Pliocene, Santa Margarita (Reef Ridge)-Uppermost Miocene, Temblor-Middle Miocene and Vaqueros-Lower Miocene. (The Vaqueros zones were formerly incorrectly designated Upper and Lower Wagonwheel.)

Thickness of Oil Sands: 30 to 450 feet.

Well Depths: 800 feet to 9000 feet.

Number of Producing Wells 1937: 59.

Average Well Size: Temblor 300 bbls. per day. Vaqueros (Bloemer and Belridge Sands) about 400 bbls. per day. Negligible amount of production from shallower wells.

Gravity of Oil: 31° to 55° A.P.I. in Temblor and Vaqueros. Shallow zones: 13.5° to 34° A.P.I.

Method of Production: Temblor and deeper zone wells flow. Large commercial supply of gas. Shallow zone wells are pumped. No commercial gas.

Bbls. Oil Produced in 1937: About 5,-700,000 bbls. (Est.) Production data included with South Belridge in statistics of State Division of Oil and Gas.

Proved Acreage at End of 1937: About 1700 in N. Belridge.

Lost Hills Oil Field (Discovered in 1910)

Location: About 36 miles N.N.W. of Taft on the Paso Robles highway. Townships: 26/20, 26/21 and 27/21.

Separate Areas:

Main Field: Township 26/20, Sec. 13 and 24. Township 26/21, Sec. 18, 19, 29, 30, 32, and 33. Township 27/21, Sec. 4, 5, and 9.

North Extension: Township 26/20, Sec. 2, 3, 11, and possibly 12.

Topography: Low ridge and flat lands.

Type of Oil Accumulation: Main Field: Anticlinal accumulations. Axis runs N. W. and S.E. and plunges rapidly to S.E.

North Extension: Monoclinal accumulation on Northeast flank of anticline in four overlying zones of irregular extent and variable productivity.

Geological Horizons Productive: Main Field: Etchegoin-Pliocene, and Santa Margarita (or Reef Ridge)-Upper Miocene. North Extension: Etchegoin only.

Thickness of Oil Sands: 10 to 600 feet.

Well Depths: 500 feet at North End of Main Area to 2400 feet at Southeast end.

North Extension: 1130 to 1910 feet.

Number of Producing Wells (1937): 270. Potential: 401.

Average Well Size: 16 bbls. per day. Cut 64% water.

Gravity of Oil: 10° to 38°. Some commercial gas produced.

Method of Production: Pumping.

Bbls. Oil Produced in 1937: 1,401,270.

Total Field Production to End of 1937: Has been included with Belridge until 1934. Total production 1930 to 1937 incl.: 7,112,635 bbls.

Proved Acreage at End of 1937: 2450.

Cumulative Production per Acre since January 1, 1930: 2902 bbls.

Devils Den Oil Field (Discovered in 1901)

Location: About 50 miles Northwest of Taft and 35 miles South of Coalinga. Township: 25/18.

Separate Areas:

Old Area: Sec. 25 and 26.

Alferitz Area: Sec. 14.

Topography: Old Area: Flat. Alferitz Area: Rolling hills.

Type of Oil Accumulation: Old field—monoclinal, easterly dip. Alferitz area—anticlinal.

Geological Horizons Productive: Fractured Kreyenhagen shale. In old field there is a little sand. Kreyenhagen is of Oligocene or Eocene age or both.

Thickness of Oil Sand: Most wells are in fractured shale but some show 8 to 18 feet of sand or sandy shale.

Well Depths: Old field 140 to 200 feet. Alferitz Area 2037 and 2554 feet.

Number of Producing Wells (1937): 20.

Average Well Size: Old field: 1 to 2 bbls. per day. Alferitz Area: 6 bbls. per day.

Gravity of Oil: 14° to 15° in Old Field. 17.2° in Alferitz Area.

Method of Production: Pumping.

Bbls. of Oil Produced in 1937: 7538. Cut about 30% water.

Proved Acreage at End of 1937: 40.

Note: Statistics of early years are combined with other fields.

Trico Gas Field (Discovered in 1934)

Location: 37 miles Northwest of Bakersfield, extending over the Kings County line. Township 25/23, Sec. 1 and 3.

Topography: Flat sagebrush land.

Type of Gas Accumulation: Anticlinal —dome.

Geological Horizons Productive: Upper San Joaquin Clays (and sands) productive—Pleistocene. Two zones (1st Mya and 2nd Mya) productive in different places.

Thickness of Gas Sands: 22 to 100 feet of formation open. Not over 15% is sand.

Well Depths: 2454 to 3255 feet.

Number of Producing Wells: All idle. Five produceable in Kern County portion of the field.

Well Shut-in Pressures: 1070 to 1364 lb./sq. in.

Initial Shut-in Pressures: 1060 to 1390 lb./sq. in.

Gas Production to End of 1937: No pipeline connected to field. Some gas used for drilling wildcats and for camp purposes. Total Produced, 219,387 M.c.f.

Proved Acreage at End of 1937: 560 in Kern County.

Semitropic Gas Field (Discovered in 1935)

Location: About 30 miles Northwest of Bakersfield and 8 miles West of Wasco. Township 27/22, Sec. 1 and 12; Township 27/23, Sec. 6-9 incl., 14, 15, 16, and 22 to 26 incl.

Topography: Flat sagebrush land.

Type of Gas Accumulation: Anticlinal. Sand zones.

Geological Horizons Productive: Zone under North part of field known as North Mya Zone, that under central portion, Hill Zone, and that under South portion, South Mya Zone. All are of Upper San Joaquin Clays (and sands) —Pleistocene age.

Thickness of Sands: 1 to 10 feet, average about 5 feet.

Well Depths: North and South Mya wells 2300 to 2400 feet. Hill Zone Wells 2950 to 3200 feet.

Number of Producing Wells (1937): 20.

Well Shut-in Pressures: North Mya 980 to 986 lb./sq. in.; S. Mya 967 to 1004 lb./sq. in.; Hill Zone 695 to 1196 lb./sq. in.

Initial Shut-in Pressures: N. Mya 1014 lb./sq. in.; S. Mya 1004 lb./sq. in.; Hill Zone 1352 lb./sq. in.

Gas Production to End of 1937: About 600,000 M.c.f.

Proved Acreage at End of 1937: About 4000 acres.

Wasco Oil Field (Discovered in 1938)

Location: 5 miles West of Wasco and 27 miles Northwest of Bakersfield. Township 27/24, Sec. 7, 8, and possibly 17.

Topography: Flat sagebrush country.

Type of Oil Accumulation: Anticlinal.

Geological Horizons Productive: Rio Bravo Sand—Vedder—Vaqueros—Lower Miocene.

Thickness of Oil Sands: About 45 feet.

Well Depths: 13,175 feet. Wells have gone below this depth but have been wet and plugged back.

Number of Producing Wells (November 1938): 2. (Another well makes a little oil from fractured shale in Upper Monterey-Miocene, but can hardly be called commercial.)

Average Well Size: Wells are completed for as much as 6500 bbls. per day and are then heavily curtailed.

Gravity of Oil: 37° A.P.I. Much commercial gas is produced.

Method of Production: Flowing.

Proved Acreage: Not estimated yet.

GEOLOGIC EPOCH	Subdivisions of GEOLOGIC EPOCHS	Kern County Fields																								
		West Side Fields													South End of Valley		Central Valley Fields									
							Mc-Kittrick				Midway-Sunset						Oil									
		Belridge-North	Belridge-South	Devils Den	Elk Hills	Lost Hills	Main Field	Cymric	Franco-Western	Temblor	General Area	Buena Vista Hills	Lakeview	Williams	Grapevine	Wheeler Ridge	Canal & Ten Section	Coles Levee & Tupman	Greeley	Rio Bravo	Wasco	Buena Vista Lake	Potrero Gas	Coalinga		
RECENT	Recent Alluvium (Fresh water deposits)				A		A		A	A			A	A		A							A	A		
PLEISTOCENE	TULARE - Sands, clays, and gravels. (Fresh water deposits)	O	O	A		T	T	O		A		G		A		A							A	A		
PLEISTOCENE & PLIOCENE	SAN JOAQUIN CLAYS - Clays, including sand and gravel strata. (Fresh, brackish, and marine water deposits)	A	A	A	G O	A	O	W		A	O	G O	O	A								G	A			
PLIOCENE	ETCHEGOIN - (Marine sands and shales)	O	O	A	O	O	O	W		A	O	O	O	A		O							A			
	CONTACT ZONE (Etchegoin - Santa Margarita) (Marine)					O		W	O	A	O	O	O	A		O							A			
MIOCENE	SANTA MARGARITA and/or REEF RIDGE Series. (Marine)	O	O	A		O				A	O	O	O	A		O							A			
	MONTEREY (Maricopa Shale) (Marine shales including bodies of sand)		O			W				A	O			O	O	W	O	O	O				A			
	TEMBLOR - (Marine shales and sands)	O				W				O						W							A	O		
	VAQUEROS (Marine shales and sands)	O				W										O			O O	O O	O		A A A	A	O	
OLIGOCENE	WAGONWHEEL Formations (Marine sands and shales)	W 5																					A			
EOCENE	KREYENHAGEN Shale and sands (Marine)			O																			A			
	AVENAL Sandstone (Marine) MEGANOS Sandstone (Marine)			W																W			A	O	O	O
CRETACEOUS	(Marine)																						G	O		
JURASSIC or older	FRANCISCAN or older Metamorphics and Granites																									

Buttonwillow Gas Field
(Discovered in 1926)

Location: About 30 miles Northwest of Bakersfield and about 8 miles N.N.W. of the town of Buttonwillow.

Topography: Flat sagebrush land.

Type of Gas Accumulation: Anticlinal elongated dome. Gas occurs in 20 foot sand over entire area of field and in several other deeper zones that are very spotted. One zone consists of fractured shale. Pressure retained on 20 foot sand by encroaching edge waters.

Geological Horizons Productive: Upper San Joaquin Clays (and sands)—Pleistocene; and Lower San Joaquin Clays—Pliocene.

Thickness of Sands: 5 to 20 feet.

Well Depths: 2408 to 3362 feet.

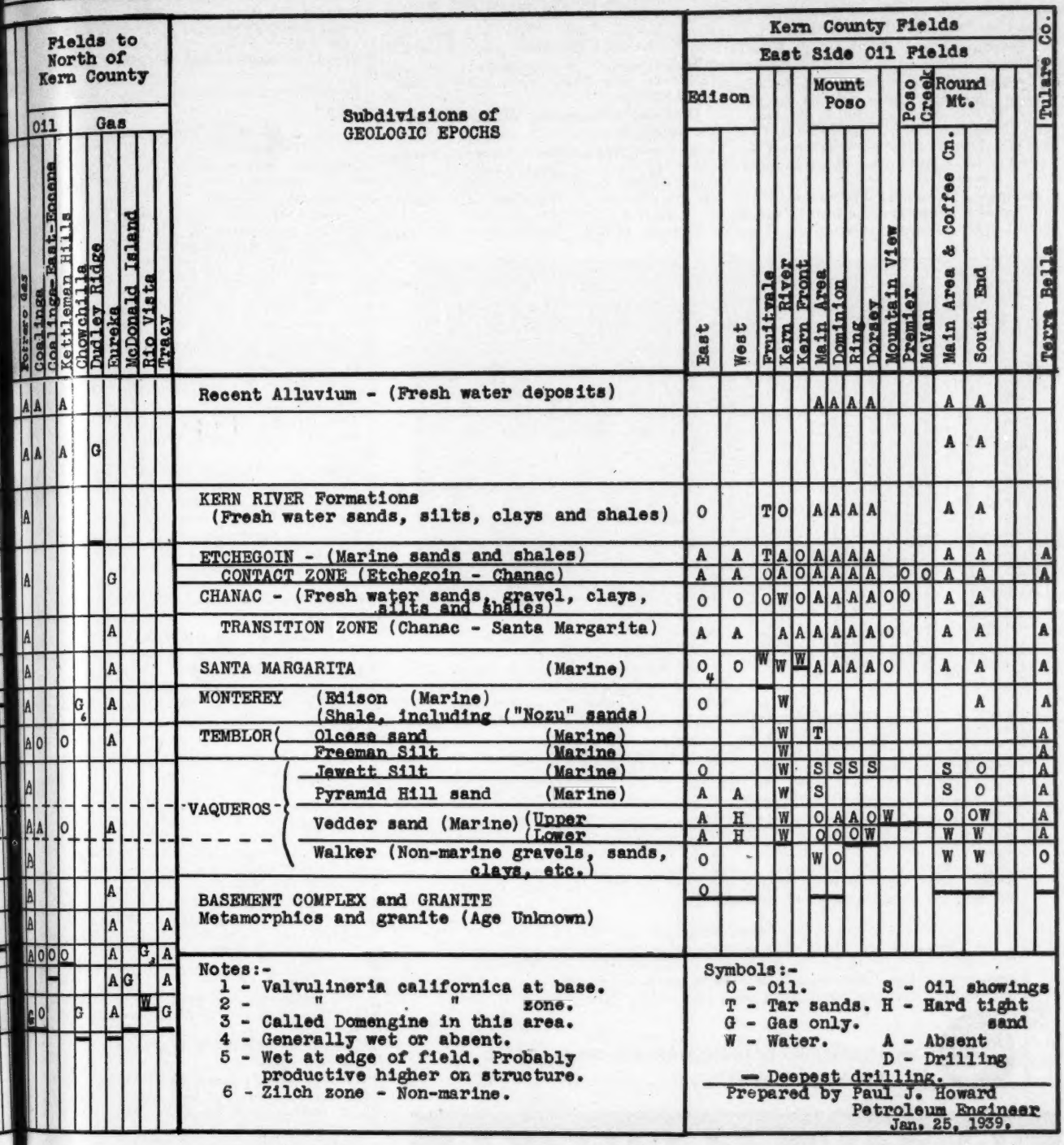
Number of Producing Wells (1937): 26.

Well Shut-in Pressures: Average 860 lb./sq. in. in 20 foot sand. Pressures in other zones run as high as 1341 lb./sq. in.

Initial Shut-in Pressure: About 950 lb./sq. in. in 20 foot sand.

Gas Production to End of 1937: About 16,000,000 M.c.f.

Proved Acreage at End of 1937: 1720.



Rio Bravo Oil Field
(Discovered in 1937)

Location: 5 miles S.S.E. of Shafter and 15 miles W.N.W. of Bakersfield. Township 28/25, Sec. 27, 34, and 35. Township 29/25, Sec. 1 and 2.

Topography: Flat lands, farms and sagebrush.

Type of Oil Accumulation: Anticlinal.

Geological Horizons Productive: Rio Bravo Sand—Pyramid Hill & Vedder—Vaqueros—Lower Miocene.

Thickness of Oil Sands: Wells have taken in from 50 to 285 feet of zone. About 60 to 80% sand.

Well Depths: 11,300 to 11,550 feet.

Number of Producing Wells (November 1938): 22.

Average Well Size: Wells are completed for from 1000 to 6000 bbls. per day and are then heavily curtailed.

Gravity of Oil: 34° to 40° A.P.I. Wells produce much commercial gas.

Method of Production: Flowing.

Bbls. of Oil Produced in 1937: 127,834.

Proved Acreage at End of 1937: About 700.

Greeley Oil Field
(Discovered in 1936)

Location: 10 miles West of Bakersfield. Township 29/26, Sec. 16-20, incl. (One lone small well in Sec. 30 may have no connection with Greeley structure.)

Topography: Flat. Mostly covered with sagebrush.

Type of Oil Accumulation: Shore line deposit, on nose which pinches out on the East side along a straight line running through N.E. cor. and S.W. cor. of Sec. 20. Deeper zone—Rio Bravo—Vedder—Vaqueros sand has one well East of this line to date.

Geological Horizons Productive: All but 2 wells to date produce from Stevens Sand-Upper Montrey-Miocene. Two wells produce from Rio Bravo Sand Pyramid Hill & Vedder-Vaqueros-Lower Miocene.

Thickness of Oil Sands: Stevens Sand: 40 to 170 feet of zone taken of which about 75% is sand. Only 124 feet of Rio Bravo sand (Vedder) open to date.

Well Depths: Stevens wells 7700 to 7850 feet. Rio Bravo Sand wells 11,520 to 11,590 feet.

Number of Producing Wells (November 1938): 19.

Average Well Size: Stevens wells good for initial of 200 to 4500 bbls. per day. Vedder wells good for up to 15,000 bbls. per day. Wells are very heavily curtailed.

Gravity of Oil: Stevens sand 33° to 64°. Average 42° A.P.I. Vedder Sand 36° in first well. Second well 41°.

Method of Production: Flowing. Large amounts of commercial gas.

Bbls. of Oil Produced in 1937: 527,688.

Total Field Production to End of 1937: 531,649 bbls.

Proved Acreage at end of 1937: About 620.

Total Cumulative Production per Acre: 857 bbls.

Canal Oil Field
(Discovered in 1937)

Location: 14 miles W.S.W. of Bakersfield. Township 30/25, Sec. 11 to 14, incl. and possibly 23.

Topography: Flat land covered with sagebrush and mesquite.

Type of Oil Accumulation: Anticlinal. Axis runs about N.W. and S.E.

Geological Horizons Productive: Stevens Sand-Upper Monterey-Upper Miocene. No attempt has yet been made to secure production from Rio Bravo Sand -Vedder-Vaqueros-Lower Miocene, which may be present.

Thickness of Oil Sands: Wells have from 55 feet to 270 feet open, about 75% of which is sand.

Well Depths: 8175 to 8340 feet.

Number of Producing Wells (November 1938): 15.

Average Well Size: Wells are completed for 1500 to 3300 bbls. per day and are then heavily curtailed.

Gravity of Oil: 34.5° to 37.9° A.P.I.

Method of Production: Flowing. Large amounts of commercial gas.

Bbls. of Oil Produced in 1937: 31,648 bbls.

Proved Acreage at End of 1937: About 500 acres.

Ten Section Oil Field
(Discovered in 1936)

Location: 12 miles S.W. of Bakersfield. Township 30/25, Sec. 25. Township 30/26, Sec. 19, 20, 29-32, incl.

Topography: Flat land covered with sagebrush and mesquite in places.

Type of Oil Accumulation: Anticlinal. Axis runs about N.W. and S.E. Oil horizon like inverted saucer.

Geological Horizons Productive: Stevens Zone-Upper Monterey-Upper Miocene. No attempt has yet been made to secure production from the Rio Bravo Sand-Vedder-Vaqueros-Lower Miocene. This zone can well be present.

Thickness of Oil Sands: From top of gas cap to flat water table is about 600 feet. Gas cap is about 200 feet thick on top of the structure. 60 to 300 feet of formation is open to wells, of which about 75% is sand.

Well Depths: All wells about 8200 feet deep on account of flat bottom water table.

Number of Producing Wells (November 1938): 34.

Average Well Size: Wells initially good for 1500 to 3500 bbls. oil per day where well located on structure. Production is heavily curtailed thereafter.

Gravity of Oil: 22° to 38° A.P.I. Averages about 35°.

Method of Production: Flowing. Large amounts of commercial gas.

Bbls. of Oil Produced in 1937: 932,429.

Total Field Production to End of 1937: 1,120,893 bbls.

Proved Acreage at End of 1937: About 1300.

Total Cumulative Production per Acre: 862 bbls.

RUN A YOWELL PERFORATION WASHER *First!* TO LOCATE WATER SOURCES *accurately*

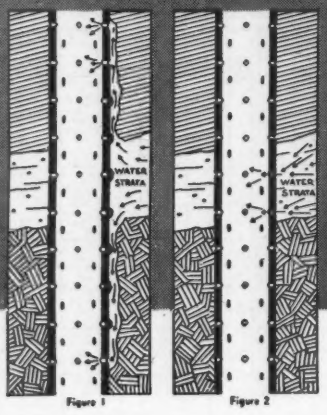


Figure 1 Figure 2

Entrance of water into the oil string is an ever-present menace to efficient oil production—and a Yowell Perforation Washer has been found by operators everywhere to be the most effective tool for opening clogged liners to allow the water to enter **at its source.**

Illustrated above (Fig. 1) is a typical example of how clogged liners make accurate water locating difficult. When perforations become clogged, water flows either up or down the formation to open holes, preventing its accurate location when "water witches" are run.

The positive washing action obtained with a Yowell Perforation Washer removes all foreign material from the liner perforations, pushing it back against the formation or depositing it in the bottom of the hole for subsequent removal. By running a Yowell Washer to open clogged holes **before** using water locating instruments, you can be absolutely sure of locating the water intrusion **at its source.** (Fig. 2).

Other Uses

The Yowell Perforation Washer is also widely used to open perforations for increasing production, to check and condition gun and mechanical jobs, to spot chemicals and oil, to locate holes in the casing, and to wash out cavities for more effective squeeze jobs.

YOWELL OIL TOOLS

WELL CLEANING HEADQUARTERS FOR THE OIL FIELDS

YOWELL SERVICE CO.

Oil Field Specialties

AVENAL ★ SANTA FE SPRINGS, CALIFORNIA, PHONE 43383 ★ BAKERSFIELD

DRIFT INDICATOR SERVICE ★ PERFORATION CLEANING TOOLS ★ MECHANICAL PERFORATORS

C. P. CEMENTERS ★ VACUUM JUNK BASKET ★ OFF-BOTTOM CEMENT DUMP

Tupman Oil Field
(Discovered in 1938)

Location: Just East of the Elk Hills Oil Field, 20 miles Southwest of Bakersfield.

Topography: Flat, nearly river bottom.

Type of Oil Accumulation: Type of accumulation not yet established.

Geological Horizon Productive: Stevens Sand-Upper Monterey-Upper Miocene.

Thickness of Oil Sands: 268 feet of zone open to discovery well. About 60% sand.

Well Depth: 8674 feet.

Initial Production: 3000 bbls. per day.

Gravity: 48° A.P.I. Much commercial gas produced.

Method of Production: Flowing.

Proved **Acreage:** Not estimated yet.

Cole's Levee Oil Field
(Discovered in 1938)

Location: 17 miles Southwest of Bakersfield. Township 30/26, Sec. 10.

Topography: Flat and swampy.

Type of Oil Accumulation: Anticlinal.

Geological Horizon Productive: Stevens Sand-Upper Monterey-Upper Miocene.

Thickness of Oil Sands: 145 feet of zone taken by the only well in the area so far. About 120 feet is sand.

Well Depth: 9365 feet.

Initial Production: 720 bbls. per day, then curtailed.

Gravity of Oil: 45°. Much commercial gas available.

Method of Production: Flowing.

Proved **Acreage:** Not estimated yet.

Buena Vista Lake Gas Field
(Discovered in 1934)

Location: 17 miles Southwest of Bakersfield. Just East of Buena Vista Lake. Township 31/26, Sec. 30, 31, and 32. Township 32/26, Sec. 4 and 5.

Topography: Flat, sagebrush and farming.

Type of Gas Accumulation: Anticlinal—elongated dome. Three separate zones of different depths. Edge waters retain high pressure on gas.

Geological Horizons Productive: San Joaquin Clays (and sand)—Pleistocene and Pliocene.

Thickness of Gas Sands: 20 to 144 feet of zone open, though sand is only 5 to 25 feet.

Well Depths: 4217 to 5302 feet.

Number of Producing Wells 1937: 5.

Well Shut-in Pressures: 1st Zone 1400 lb./sq. in.; 2nd Zone 1630 lb./sq. in.; 3rd Zone 1910 to 1985 lb./sq. in

Initial Shut-in Pressures: 1st Zone 1680 lb./sq. in.; 2nd Zone 1593 lb./sq. in.; 3rd Zone 1992 lb./sq. in. (error in gauge.)

Gas Production to End of 1937: About 500,000 M.c.f.

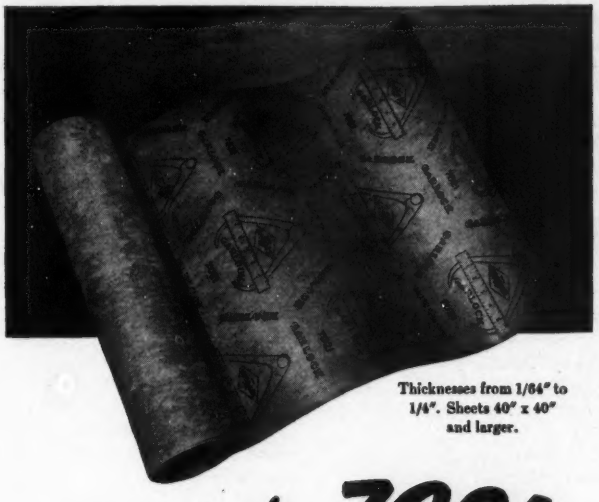
Proved Acreage at End of 1937: 875.

Paul J. Howard, in the Kern County Assessor's office, has done the valuation work for the oil fields of that county for nearly 3 years. He graduated with honors from the College of Mining, University of California, in 1924, specializing in petroleum engineering. His experience includes eight years as inspector and petroleum engineer with the State Division of Oil & Gas in Los Angeles, Long Beach, Taft, and Bakersfield, having had charge of both the Long Beach and Bakersfield offices. He is a full member of the American Institute of Mining and Metallurgical Engineers, and a member of Tau Beta Pi, national engineering honor society.

Taft C.N.G.A. Record Bakersfield Meeting

In order that more of the growing number of gasoline men in the vicinity of Bakersfield might have an opportunity to attend a monthly meeting of the Taft Chapter of California Natural Gasoline Association, the meeting of January 19 was held at Stockdale Country Club near Bakersfield. Attendance of 125 made it a record turn out.

A highly practical paper on "The Removal of Liquid and Dust from Gas Pipe Lines" was presented by J. B. Reddick, Engineer in the Los Angeles office of the Southern California Gas Co. Bill Pemberton, Oil Umpire, stepped out of his role as umpire to show some very splendid pictures of his cruise off the west coast of Mexico which combined scientific research and pleasure. Concluding the program were several excellent acts of professional talent arranged for through the courtesy of one of the supply companies. The next meeting will be held at the Petroleum Club in Taft on Feb. 16.



Thicknesses from 1/64" to 1/4". Sheets 40" x 40" and larger.

Garlock 7021

Has What It Takes!

GARLOCK 7021 Compressed Asbestos Sheet Packing *has what it takes!* Specially developed for severe oil conditions, GARLOCK 7021 gives particularly long, dependable service against light oil at high temperatures. Recommended for cracking stills and other equipment handling gasoline, light oils or steam.

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK

In Canada: The Garlock Packing Co. of Canada Ltd., Montreal, Que.

Tulsa, Okla. - Houston, Tex. - Los Angeles, Calif.

GARLOCK

LAUGH THIS OFF

We read somewhere the other day that the wives of oil workers are responsible for the expenditure of 70 per cent of the family income, which seemed ridiculously low until we remembered that the other 30 per cent goes for taxes.

Whereupon **Red Early** points out that the peculiar fact that under the present economic system the Government either gives you all you have, or takes all you've got.

Red, by the way, was the lad who suggested that some wrestler ought to call himself "Little Joe", because it's so dog-gone hard to throw.

And has always been thankful he didn't become a derrick salesman. He hates toting samples around with him.

Ted Sutter, toastmaster extraordinary, next takes the floor to remark the similarity between the campaign speaker and the rotary driller. Both are expert mud slingers.

In fact, it was a campaign speaker who first suggested the idea of the slush pump.

All of which recalls the oil worker who cured his own insomnia by talking to himself.

Clarence Burt, on the other hand, is definitely of the opinion that passport pictures were our first candids, and is the author of that famous slogan, "I'll be back in a flash with a flash."

Clarence says that although most athletes favor exercising in the sunshine, it's surprising how much development takes place in the dark.

He is now working on a new process for producing life-size miniatures.

We have also been informed that **Walt Heathman** had the misfortune to break his wrist recently, and at the present time is attending strictly to his knitting.

He is out of badminton for a little while, but is deriving some pleasure from sitting on the sidelines, and letting the other fellows have the birdie.

Joe Scanlon then tells us that a Ventura woman recently thrashed a burglar single-handed, and oil equipment salesmen up in that vicinity are now working in pairs.

And when **Earl Hill** broke off his ignition key in the lock last Saturday at Montebello Golf Club, for a moment he was so quiet you could almost hear an installment fall due.

Then up went his temperature to within two points of his golf score, as he tore his beard and called on all assembled to tell him if they had ever seen a mortal submitted to such an assortment of bad luck all in the same day. He was rescued from his predicament by an expert from the Automobile Club, and it is a sterling recommendation of his control that he was quite pleasant to the milkman when he arrived home.

Now comes **Bill Saul** telling of the enthusiastic young engineer who worked for months on a technical report and finally handed it to the boss, only to have his whole idea rejected in about three minutes. It was a long, carefully prepared document, and the engineer knew that his Chief couldn't possibly have read it all, so he boldly walked into his office and told him so. The executive put his finger tips together, gazed benignly over his glasses, and remarked, "Smith, you are right. I didn't read it all. But when I have an egg served to me for breakfast, I don't need to eat it all to know that it's bad."

With which few remarks we again find ourselves at the end of a highly instructive session, and as we reverse the motor, please remember that oily to bed and oily to rise makes a man healthy wealthy and oily.

And when a wildcat promoter comes to you with a capital idea, you'll be well advised if you let him use his own capital.

When you get down to brass tacks, if we oil men had no faith in each other, we would all have to live within our incomes.

BAKER

The Big Idea in Successfully Cementing Casing is to use equipment which provides in perfect balance the three important features of . . . STRENGTH, VALVE EFFICIENCY and DRILLABILITY.

Review of 1938

Supplementing the regular monthly report, the following yearly figures are presented by the American Petroleum Institute.

Crude oil production for 1938 totaled 249,749,246 barrels, an increase of 11,228,863 barrels over 1937 production. The daily average for the year was 684,244 barrels, compared with 653,481 for the previous year, an increase of 30,763 barrels per day. 517 wells were abandoned during the year. Of these, 251 were abandoned oil producers and one was a gas well; 262 were abandoned while drilling for oil and 3 while drilling for gas.

Below is shown the total production for the year and the daily average, also the oil well completions and initial daily output for the year, for each oilfield in the State:

	Total 1938 Production	Daily Average	Wells Completed	Daily Initial Output
Group No. 1				
Belridge—North	4,870,069	13,343	21	29,966
Belridge—South	442,195	1,211	4	165
Canal	849,154	2,326	12	27,917
Canfield Ranch	35,111	96	3	5,142
Coalinga	3,897,579	10,678	12	31,856
Coles Levee	10,345	28	1	826
Edison	1,102,525	3,021	2	285
Elk Hills	3,886,718	10,649	2	65
Fruitvale	3,078,492	8,434	18	4,625
Greeley	1,163,873	3,189	7	13,117
Kern River	4,589,655	12,574	26	1,163
Kettleman Middle Dome	19,539	53	..	.....
Kettleman North Dome	25,589,925	70,109	30	60,254
Lost Hills	1,297,497	3,555	5	424
McKittrick	1,288,745	3,531	5	588
Midway-Sunset	22,875,370	62,672	33	3,328
Mountain View	4,032,837	11,049	3	3,533
Mount Poso	6,234,882	17,082	17	3,460
Rio Bravo	1,944,578	5,328	23	79,434
Round Mountain	5,473,906	14,997	35	9,684
Ten Section	2,472,779	6,775	25	60,820
Tupman	1,668	5	1	3,752
Wasco	125,063	343	2	9,528
Wheeler Ridge	113,036	310	..	.....
Group No. 2				
Capitan	1,066,655	2,922	6	2,457
Elwood	2,247,430	6,157	..	.....
Rincon	1,394,626	3,821	9	2,637
San Miguelito	1,044,032	2,860	4	3,027
Santa Barbara	160,347	439	1	30
Santa Maria	6,128,278	16,790	86	80,831
Summerland	11,705	32	..	.....
Ventura Avenue	12,925,543	35,412	22	27,557
Ventura-Newhall	1,902,618	5,213	14	5,310
Watsonville	14,125	39	..	.....
Group No. 3				
Brea-Olinda	2,124,838	5,822	1	32
Coyote—East	1,264,089	3,463	4	1,285
Coyote—West	3,089,884	8,465	5	1,076
Domingues	9,756,119	26,729	16	4,284
El Segundo	3,872,044	10,608	20	11,364
Huntington Beach	11,916,950	32,649	9	843
Inglewood	5,337,308	14,623	1	267
Lawndale	28,790	79	..	.....
Long Beach	20,598,714	56,435	32	7,949
Los Angeles-Salt Lake	196,304	538	..	.....
Montebello	4,146,724	11,361	32	32,667
Playa Del Rey	2,305,321	6,316	..	.....
Potrero	219,765	602	2	1,110
Richfield	3,333,325	9,132	18	3,241
Rosecrans	3,731,776	10,224	31	32,873
Santa Fe Springs	12,630,018	34,603	2	141
Seal Beach	3,198,226	8,762	1	194
Torrance	5,203,088	14,255	129	39,648
Whittier	337,203	924	..	.....
Wilmington	34,167,860	93,611	261	312,096
Group No. 4—Gas Fields				
Buena Vista	.....	.....	..	.....
Buttonwillow	.....	.....	..	.....
Chowchilla	.....	.....	..	.....
Delano	.....	.....	..	.....
Dudley Ridge	.....	.....	..	.....
Goleta	.....	.....	..	.....
McDonald Island	.....	.....	1	Gas
Rio Vista	.....	.....	6	Gas
Semi-Tropic	.....	.....	..	.....
Tracy	.....	.....	..	.....
TOTAL	249,749,246	684,244	1,000	920,851

MINIMUM TWIST-OFFS

MAXIMUM SERVICE

from TOOL JOINTS and DRILL PIPE—

when VERNON *makes up your string!*

FOR best results—always have Tool Joints machine screwed onto your Drill Pipe—and *let VERNON do it.* Our modern and complete equipment and methods assure your receiving the full value of Drill Pipe & Tool Joint threads.

Our make-up service includes:

1. All threads on the Pipe, Couplings and Tool Joints are carefully cleaned, inspected for imperfections, and gauged for make-up.

2. Thorough lubrication with an approved lubricant.

3. Each thread is made up individually at a slow speed to prevent damage to threads.

4. *Each thread is made up to a predetermined, uniform torsional value or force which is visibly registered on the dial of a specially designed hydraulic cylinder type torque-meter. This insures a tight joint.*

We take the guess work out of pipe make-up. You are invited to visit our plant and see how!

VERNON TOOL CO., LTD.
2740 E. 37th ST., LOS ANGELES

a VERNON *made-up string is right!*

Field Development

San Joaquin Valley

Three Drill for Cole's Levee Oil

Leading in the race to complete the second well in the new Cole's Levee field is Ohio Oil Co.'s KCL No. F-2, one location north of the discovery well in sec. 10,31-25. Now below 9100 ft., F-2 leads its nearest rival, Standard KCL 20-1 by 3000 ft. and exceeds Union's Kernco No. 1-11 by 5000 ft. Two other operators have announced locations but have not yet started work; Richfield Oil Corp. in sec. 3 and Tide Water Associated Oil Co. in sec. 14. Ohio Oil Co.'s 9365 ft. discovery well is flowing approximately 300 bbls. of 45 gravity clean oil and 1,500,000 cu. ft. of gas.

In the Tupman area to the northwest, Richfield Oil Corp. is drilling its second well in sec. 32,30-25, below 3000 ft.

Buttonwillow Test Runs Protection Pipe

To insure against loss of the hole in the final lap before entering the Stevens zone which is expected within the next 300 ft., California Exploration Co. has cemented a string of protection casing. With bottom at 11,505 ft., company engineers believe the next few hundred feet will answer the question of Stevens production. That the zone exists in this location is virtually an accepted fact, but it is unknown whether or not it will contain oil. Location of the test is sec. 7,29-24, six miles southeast of the Buttonwillow gas field.

Ramsey to Deepen Magnet Coalinga Well

W. E. Ramsey, mid-continent operator who returned to California to bid on the developing of harbor oil lands for the City of Long Beach, is now preparing to carry on the deep test started by Magnet Oil Co. in sec. 18,20-15 in the Coalinga West Side field. Originally drilled as a try for production from the Gatchell sand member of the Eocene, the well, Fearon No. 2, found that formation absent, passing from the Kreyenhagen directly into the Moreno (Cretaceous) shale where it is bottomed at 4833 ft. Although only an insignificant amount of oil is now produced from the Cretaceous in California, some prolific wells were obtained in that horizon many years ago at Oil City, leading many geologists to believe that further exploration work is justified. The Magnet well is located down dip from the old wells, and if correlations prove correct, will encounter the surmised sand bodies

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Coalinga	Amerada Pet. Corp., SPL	7–17	17, 19-16	5410	Drilling
	American Oil Fields, Inc.	1	16, 19-15	250	Idle
	Foreign Oil Co.	6	6, 21-15	1625	Drilling
	Jarvis, Leo P.	2	14, 20-14	218	Idle
	Progressive Oil Co.	3	20, 19-15	810	Drilling
	Stuart Oil Co., Stuart	1	12, 21-14	1285	Cleaning out
Jacalitos Hills	Dauphin Dev., Ragan	1	30, 21-14	4587	Idle
Reef Ridge	MCA Drilling Co.	1	33, 22-16	1425	Drilling
	Kern County				
Arvin	Superior-Standard-Texas, Jewett	1	16, 31-29	4770	Fishing
Buttonwillow	Calif. Explor. Co., Salisbury	1	7, 29-24	11502	Drilling
Canal	Shell Oil Co., KCL	B-87	4, 30-25	11257	Drilling
Coles Levee	Ohio Oil Co.	KCL-F2	10, 31-25	8874	Drilling
	Standard Oil Co.	KCL 20-1	9, 31-25	5585	Drilling
	Tide Water Associated	KCL-1	14, 31-25		Location
	Union Oil Co., Kernco	1–11	11, 31-25	2585	Drilling
Devil's Den	Amerada Pet. Co., Beer	6	21, 26-19	4030	Fishing
	Herzog, Raymond D.	1	27, 25-18	450	Drilling
Edison	Hillview Oil Co., El Tejon	1-A	27, 30-30	2625	Drilling
	Renner & R.H.L. Oil Co.	1	27, 30-30	2600	Testing
	Superior Oil Co., Clerico	1	26, 29-28	3150	Drilling
Elk Hills	Richfield Oil Corp.	A-52-32	32, 30-25	2520	Drilling
Grapevine	Petrol Corp., Reserve	33–5	33, 11-19	7810	Drilling
	Richfield Oil Corp.	KCL-1	28, 11-20	9272	Producing
	Tide Water Assoc. O. Co., S.P.	2	15, 11-19	7235	Drilling
Lerdo	Shell Oil Co.	KCL A-23	2, 29-26	4975	Drilling
	Texas Co.	KCL 35-1	35, 28-26	4815	Drilling
Lost Hills	California Lands, Occidental	2	24, 26-20	3440	Drilling
McClung	Superior Oil Co.	KCL-12	3, 30-26	11837	Drilling
Mt. Poso	Vendome Oil Co.	1	28, 26-28		Rig
	Shell Oil Co., Glide	58–29	29, 27-28	2225	Drilling
Midway	Fried, Julius	1	34, 32-24	5031	Redrilling
Richgrove	Dilamar Oil Corp., Quinn	3	15, 25-27	275	Drilling
Trico	Standard Oil Co., M.&L.	8–1	3, 25-23		Location
Union Ave.	Richfield Oil Corp., Union Ave.	1	6, 30-28	9450	Drilling
	Tulare County				
Richgrove	Amalgamated Oil & Gas Co.	1	23, 24-27		Location

above 7000 ft. The contract, it is understood, calls for deepening to at least 7301 ft.

No newcomer to California is Mr. Ramsey. It was his company which developed the rich Reservoir Hill property for the City of Long Beach in the early days of the Signal Hill field. On his return to mid-continent fields, the lease was sold to Rio Grande Oil Co. since absorbed by the Richfield Oil Corp.

Interest Revives In East Side Plays

Indicating a return of interest to the east side of the San Joaquin Valley, several projects are now working in the area between Bakersfield and the hills. Near Edison Superior Oil Co. is drilling Clerico No. 1 below 3200 ft. in sec. 26,29-28, while Fred R. Williams and Francis O'Reilley have endeavored to obtain production from old holes in sections 4 and 5 respectively of township 30-29. In sec. 16 of the same township, Oils, Inc. of California is perforating and testing Cauley No. 1 drilled originally to 4276 ft. by Shell Oil Co.

In township 30-30, Hillview Oil Co.'s Tejon 1A has attained a depth of 2600 ft. in projected sec. 11 and the Renner-R.H.L. well is making unsuccessful production tests in sec. 27. The joint Arvin test of several major companies, Jewett No. 1 in sec. 16,31-29, is fishing for a string of drill pipe with bottom at 4770 ft.

Amerada E. Coalinga Test Drills Below 5500 Feet

Most important well now drilling in the East Coalinga area is Amerada Petroleum Corp.'s S.P.L. No. 7-17. Located in sec. 17,19-16, the well is two miles east of the old field, two miles southeast of Tide Water Associated's barren deep test, Fleishacker No. 57-1, and four miles northeast of present production in the Eocene pool. When last reported bottom was below 5500 ft. but no data was available on formations encountered.

Amerada's Beer 6 Fishes Drill Pipe

That the quest for oil is no lead pipe cinch, can be testified by Amerada Petroleum Corp. with especial reference to its Devil's Den-Blackwell's Corners play. Starting with the spudding of Beer No. 1 in August of 1934, the company has drilled and abandoned five wells with a total footage of 21,287 ft. The latest try, Beer No. 6, is hung up with a fishing job at 4033 ft. raising the total to 25,320 ft. Unfortunately for Amerada so far has been the fact that each well has had very good showings, No. 4 even pumped a small quantity of 25 gravity oil from a depth of 2670 ft. Deepest of the lot was No. 5 which drilled to 8296 ft.

Standard Resumes Trico Exploration

After a year of inactivity in the Trico area, Standard Oil Co. is resuming its exploration program with the staking of a location for a shallow gas test. On Miller & Lux land, the well will be called No. 8-1 and will be drilled just south of the Kern-Tulare county line in sec. 3,25-23.

Activity Steady in Coalinga Old Field

Widely scattered activity in the old proved portions of Coalinga has remained steady since the entire area was rejuvenated last summer by the discovery of Eocene production on Coalinga nose. Perhaps the most successful in obtaining new shallow wells is General Petroleum Corp. which has completed several on the Esperanza lease in sec. 6,

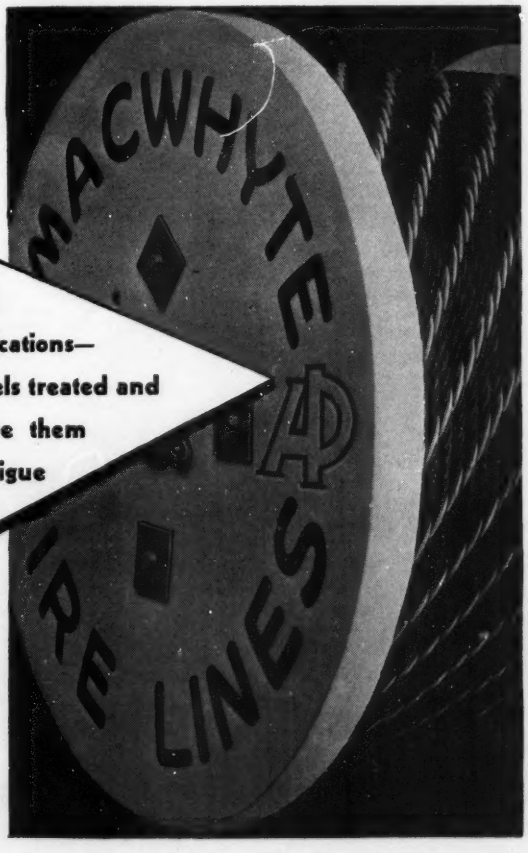
MADE TO... MAKE GOOD

Why do Macwhyte Wire Lines cut operating costs? The answer is simple:

Macwhyte specialists use only high grade steels. They supervise each step of the manufacturing process. And the Macwhyte laboratory checks quality all along the way.

The result: a wire line with exceptional resistance to bending and operating fatigue, a line that drillers like because it runs through the blocks smoothly, because it winds on the drum evenly.

Next time: BUY MACWHYTE



* MACWHYTE WIRE LINES are made to A. P. I. Specifications— from carefully selected steels treated and specially processed to give them exceptional resistance to fatigue

No. 378

Stocked in California by PRODUCTION EQUIPMENT COMPANY
651 East Gage Ave., Los Angeles

MACWHYTE COMPANY
Main Office and Factory
Kenosha, Wisconsin
SAN FRANCISCO 749 Bryant St.
Phone Exbrook 4966

Manufacturers of high-quality wire lines for the oil fields . . . including Plow Steel Sand Lines, Plow Steel and Monarch Whyte Strand Casing Lines

20-15, with outputs of 20 to 50 bbls. Holes are only 1300 ft. deep and require but a few days to drill.

Latest operator to start new work is J. A. Tyler who is preparing to drill well No. 4 in sec. 14, 20-14.

Italo Pete Drills Near Kern River Field

For some months inactive, Italo Petroleum Corp. of America is preparing to drill a new well near old production in the Kern River field. Site of the project has been chosen on the Judkins lease near the center of the southeast quarter of sec. 19,28-28.

Development Rate Even In North Belridge Field

Consistency is the keynote of development in the North Belridge field. Belridge Oil Co., which controls the major part of the productive area, is keeping three strings of tools busy, with one well each in sections 26, 28 and 35 of township 27-20. Deepest of the group at present is well No. 2 in sec. 28 which is coring for the Wagonwheel zone at 8175 ft. Next is No. 26A which is below 7750 ft. in sec. 35 while No. 39 in sec. 26 is approaching 6000 ft. Probably the next to be drilled will be No. 16 in sec. 28 for which derrick is already erected.

In the extreme north end of the field, Richfield Oil Corp. is drilling Belridge No. 3 at 5750 ft. and is preparing to remedy water trouble in No. 1A which was completed last year at 8538 ft. Both wells are located in sec. 22. Tide Water Associated Oil Co. in the same section is drilling well No. 23 below 6000 ft. The latter company's No. 22 in sec. 21 appears to mark the northerly limit of production as its capacity is only 170 bbls. of oil and 200,000 cu. ft. of gas a day.

Production Is Small In Canal Outpost

Smallest production yet obtained in the Canal field was that of Standard Oil Co.'s Rio Fee No. 1, located on the company's pump station site. With 70 ft. open to bottom at 8280 ft., the well was completed with an initial flow gauged at 440 bbls. of 37.5 gravity clean oil and 350,000 cu. ft. of gas. It probably marks northerly productive limits.

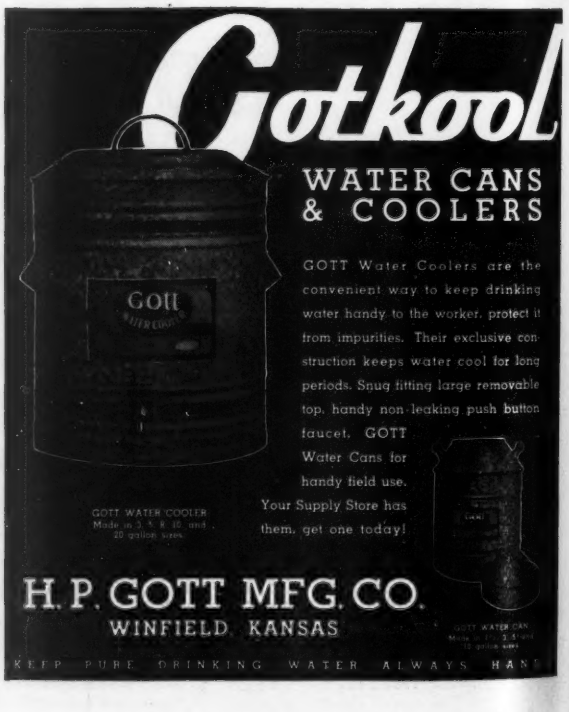
With initial production of 1600 bbls., Ohio Oil Co. finished its KCL No. E-10 in sec. 14. Plugged back to 8325 ft. from 8485 ft., 198 ft. of formation is in use.

Shell Oil Co. is preparing to complete KCL No. A-61 and is building a rig for No. A-23, both located in sec. 14, 30-25.

Two Completed In Coalinga Eocene

Two more wells were completed in the prolific Gatchell sand in the East Coalinga Eocene Pool. Largest was the better located project of Robert S. Lytle, operator, situated in sec. 18,20-16, which came in under wraps flowing 32.5 gravity oil at the rate of 3600 bbls. a day through a 34/64-in. bean. The other, Standard Oil Co.'s easterly outpost, No. 1-17F in sec. 17, was the first in the field to be allowed to flow wide open. With two 1-in. and one 1½-in. beans, the maximum rate developed was 2340 bbls. of oil and 1,400,000 cu. ft. of gas. Because of the well's low structural position, gravity of the product was slightly under 27. Lest bottom water be tapped, only about 200 ft. of the Gatchell sand was penetrated, the hole being bottomed at 8015 ft. as compared to the 515 ft. open in the Lytle well which located the bottom shale at 8030 ft.

DOWN goes your wrench expense with the rugged guaranteed RIDGID
No housing repairs with this famous all-alloy pipe wrench—and that means practically no wrench upkeep expense at all. Bend pipe with a RIDGID, twist it—you won't harm the housing. Adjusting nut won't bind, always spins easily in all sizes, 6" to 60". Sure action jaws of chrome molybdenum, handy pipe scale on full-floating hook jaw, heel jaw replaceable. Powerful comfort-grip I-beam handle—a safe efficient wrench in any use or emergency, as millions of users can tell you. Made also in End Pattern for pipes against flat surfaces. For real wrench satisfaction and economy, buy RIDGID at your Supply House.
Profit from RIDGID economy in 1939!
THE RIDGE TOOL COMPANY, ELYRIA, O.
RIDGID PIPE TOOLS


Gotkool
WATER CANS & COOLERS
GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today!
Gott
GOTT WATER COOLER
H. P. GOTT MFG. CO.
WINFIELD, KANSAS
KEEP PURE DRINKING WATER ALWAYS HAN

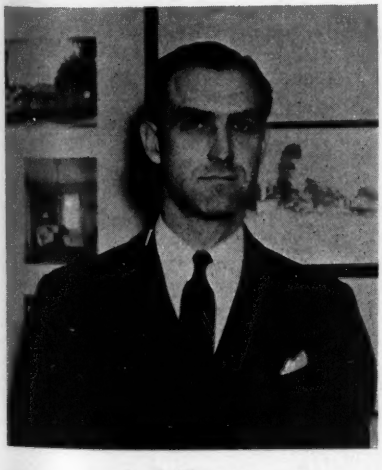
Shell Glide No. 58-29 Only Mount Poso Driller

With only one drilling well, Shell Oil Co.'s Glide No. 58-29, Mount Poso activity is at a record low. Shell's well, located in sec. 29, 27-28, is seeking a new spot of production a mile west of Union Oil Co.'s Tribe lease near the south end of the old Mount Poso field. At 2225 ft. the well was reported as coring the Jewett silt.

F. T. Patton

Two interesting papers featured the regular February monthly meeting of the California Natural Gasoline Association. "Recognizing and Repairing Weaknesses in Existing Pressure Vessels," by K. V. King, Chief Materials Engineer, and F. T. Patton, Materials Engineer, of Standard Oil Co. of Calif., was presented by Mr. Patton. "Modern Pressure Vessels Simplify Natural Gasoline Storage Problems," by D. E. Larson, development Engineer of Chicago Bridge and Iron Co., was delivered by L. A. Elsener, Pacific Coast Manager, Chicago Bridge and Iron Co.

The paper delivered by Mr. Patton, co-author, was one of the outstanding features of the Western Metals Congress held last year. The paper was revised by its authors to treat specifically with natural gasoline plants. Mr. Patton has devoted 15 years to the study of corrosion problems, elimination of hazards in operating pressure vessel equipment by means of periodic inspection and the application of A.P.I.-A.S.M.E. pressure vessel codes to Standard Oil Co. activities.



L. A. Elsener

There are good reasons for the steadily increasing popularity of Horton-spheroids for the storage of natural gasoline and Mr. Larson's exceptional paper which was read by Mr. Elsener emphasized them. Results have shown that the storing of natural gasoline in tanks which will stand a pressure of several pounds per square inch stops all loss of vapor by breathing, prevents lowering of volatility and guards against reduction of octane rating. How these desirable achievements are accomplished through storage under pressure form the basis of this excellent paper.

New Work Started In Richgrove Area

Renewing its efforts to obtain commercial production in the Richgrove area, Dilamar Oil Corp. has spudded in Quinn No. 3 in sec. 15,25-27. Quinn No. 1 which the company acquired from Doyle Petroleum Co., was plugged from 2956 ft. to 2882 ft. where it is standing idle after a pumping test indicated it capable of producing a small amount of wet oil.

Six miles northeast in sec. 23,24-27, Amalgamated Oil & Gas Co. has announced the location of a new exploratory well to be called Wallace No. 1.

Richfield Drills Second Tupman Well

Richfield Oil Corp. has spudded in its second well in the Tupman field it discovered late last year. The new well, Western No. A-52-32 is drilling below 2500 ft. and will extend production one location east of the discovery well in sec. 32,30-25.

Shell, Texas Drill Lerdo Wildcats

Seeking another field on the Mountain View-Fruitvale trend, Shell Oil Co. and The Texas Co. are drilling wildcat wells south of Lerdo. In sec. 2,29-26 Shell's KCL No. 2A-23-2 is making fast hole at 5300 ft. while a mile and a half northeast in sec. 35,28-26, Texas Co.'s KCL No. 35-1 was last reported in shale at 7200 ft.

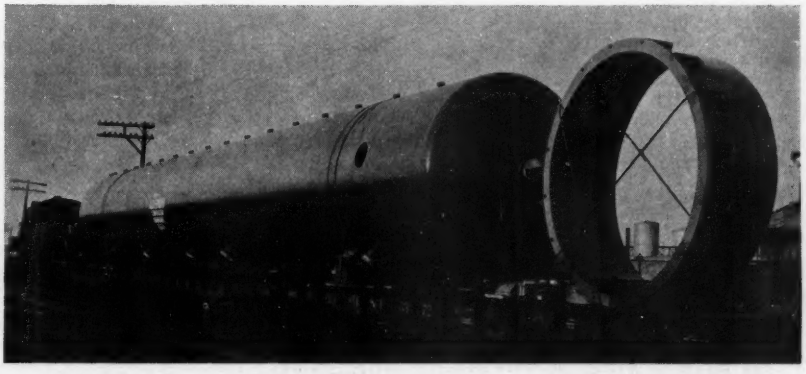
Wasco Development Is Slow Work

Because of extreme depth, development in the Wasco field is much slower than in other Valley Floor fields. Nearest to the 13,200 ft. pay zone is Continental Oil Co.'s KCL No. A-4-8 in sec. 8, 27-24, which, when last reported, was drilling ahead below 11,250 ft. In the adjoining section to the west, Standard Oil Co.'s Mushrush No. 2 is fishing for drill pipe with bottom at 10,868 ft. while in sec. 17 the company's KCL No. 8-B-2 is at the relatively shallow depth of 8000 ft.

Two Wells Test Grapevine Area

Two wells are drilling at interesting depths in the Grapevine area at the south end of the San Joaquin Valley. Deepest is Petrol Corporation's Reserve Petrol No. 33-5, located in the much-drilled sec. 33,11-19. Approximately 900 ft. of basalt has been penetrated to present bottom of 7810 ft.

To the north in sec. 15, Tide Water Associated Oil Co.'s S.P. No. 2 is coring hard gray sandstone below 7200 ft. Several intervals of sand have shown light cuts but the last formation test at 7150 ft. recovered only drilling mud.



An oil refining tower of exceptionally large size is shown here being loaded at the A. O. Smith Corp.'s Milwaukee plant for shipment to a Pennsylvania refinery.

This enormous vessel is Smithlined throughout with chromium alloy steel as a protection against corrosion. It will stand more than 108 ft. high and is 11 ft. in diameter. Its huge size necessitated use of three special railroad cars for shipment. The supporting skirt in the foreground will be bolted to the vessel in service. Photo courtesy of A. O. Smith Corp.

Los Angeles Basin

Deep Hole Well Extends Torrance Hot Spot

Injecting a new surge of life into the already booming Torrance hot spot, Kovell Oil Co.-Deep Hole Drilling Co. completed No. 1 at the southwest corner of 240th St. and Walnut Ave. pushing productive limits another two blocks to the south. Bottomed at 5163 ft. and with the Del Amo zone open below 4800 ft., the well was swabbed in flowing clean oil at the estimated rate of 725 bbls. a day.

On the strength of Deep Hole's showing, Port Petroleum Co. is preparing to drill an outpost north and east of the intersection of 247th St. and Walnut. The location is approximately 300 ft. west of an old shallow zone producer originally drilled by Julian Petroleum Co.

Two more hot spot wells were brought in with production exceeding 700 bbls.: C. H. Lebow's Fee No. 1 and Bolling Oil Co.'s Power No. 1. Both wells are in the block south of 236th St. and east of Eshelman Ave. and both were bottomed at 5165 ft. The Lebow well included 350 ft. of zone while Bolling cased off the upper sands with 7-in. pipe cemented at 4908 ft.

Rated between 300 and 400 bbls. were initials registered by Huntington Signal Oil Co. Clark No. 1 and Tiger Oil Co. No. 1, both located on the north side of 236th St. The holes are bottomed at 5140 and each is open to 340 ft. of zone.

A new speed record was made for this section of the field when Kern Drilling Co., contractors for A & T Oil Co., set surface casing and drilled 5171 ft. of hole in an elapsed time of seven days and ten hours. Chiefly responsible for the record was the heavy butane-powered equipment employed. The well, No. 3, is now being placed on production.

Among those soon to go on production are Kern Petroleum Co. Nehr No. 1, Cuba Oil Co. No. 1, Anderson & Associates, Grant No. 1, Alford Oil Co. No. 12, Felix Mallon No. 4 and Ray Wilson No. 2.

Standard, P. Western Score Marble Completions

Operating on the large Marble properties west of the townlot development in the Torrance field, Standard Oil Co. and Pacific Western Oil Co. each completed a better than average well.

One of the largest in the field was Standard's Marble One No. 2, located 1600 ft. west of the former hot spot in the Pennsylvania Ave. sector. With 209 ft. of perforations open to bottom at 4960 ft., the well was swabbed in tanking 667 bbls. in its first 14 hours flow. With the bean reduced from 1 in. to 20/64 in., present production is reported as 289 bbls., 26.5 gravity and clean.

In the same area Pacific Western recompleted its deepened Marble Fee No. 13 on the pump for 340 bbls. This is one of the best yields yet obtained by the company in its deepening program.

Important Basin Wildcats Are at Interesting Stages

Several of the most important Los Angeles Basin wildcats are now at interesting stages. Much attention is being given The Texas Co.'s No. A-13-1, located two miles northwest of Anaheim in Orange county, where two formation tests have recently been made. The first, from 7785 to 7820 ft. recovered all salt water while the second, from 7885 to 7915 ft. recovered only a small amount of fluid, 10 per cent of which was heavy oil. The sands are said to be similar in character to those found in the three Shell wells drilled in the vicinity.

Back of the Bolsa Chica Gun Club between Huntington Beach and Seal Beach, Patos Drilling Co. is drilling in shale below 4300 ft. after noting the top of the Repetto at approximately 4150 ft. The company hopes to encounter oil sand within the next few hundred feet.

Rolling Hills Petroleum Co. is yet drilling Weston No. 1 which is attempting to find production against the fault at the north end of Palos Verdes Hills. Bottom is reported as 5235 ft. in shale streaked with gray sand. Oil and gas showings have been in evidence below 5000 ft.

Continued tests in the La Mirada wildcat of John McKeon & Associates have not materially bettered its outlook for production. With casing cemented on bottom at 8962 ft., several intervals below 8850 ft. have been perforated and tested with water and a little gas for the net result.

Having chosen Blackstone Oil Co. for an operating name, A. C. Fisher and associates will proceed at once with the drilling of their scheduled test on Western Ave. north of Torrance. Rig corners have been dug and the derrick will be built immediately.

The Texas Co.'s Santa Monica test, Anderson-Spring No. 1, is being directionally redrilled below 6500 ft. in search of a productive horizon at the top of the schist. The basement was entered at approximately 7200 ft. in the first hole.

Many wells in the Newhall and Castaic areas are idle due to road washouts.

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Athens	Entrikin, W. E.	1	7, 3-13	6520	Abandoned
Bellflower	Clayton, Geo. L., Scott	1	32, 3-12	6897	Idle
Castaic	Royal Land Corp.	1	8, 4-17	1338	Idle
La Mirada	John McKeon and Assoc. Carmenita	1	21, 3-11	8962	Testing
Mojave	Mojave Pet. Co., Gorman	1	5, 8-18	470	Idle
	Jennings	2	33, 5-14	470	Idle
Newhall	Mangrum and Page, Lintz	1	4, 3-15	150	Idle
	Newhall Drlg. Asso., Needham	4	13, 3-16	3505	Idle
	Palmluck Oil Co.	1	23, 3-16		Rig
Palmdale	Neu-Cal	1	17, 6-12	1250	Idle
Palos Verdes	Rolling Hills Pet.	1	27, 4-14	5235	Drilling
Santa Monica	The Texas Co., A-S	1	9, 2-15	7285	Redrilling
San Pedro	Grady, R. T.	1	23, 5-14	650	Idle
Torrance	Blackstone Oil Co.	1	2, 4-14		Foundation
Whittier	Langstaff, Geo. W., Iliff	1	8, 2-11	2250	Idle
	H. C. Oil Co., Joyce	1	22, 2-11	3320	Drilling
	Orange County				
Anaheim	The Texas Co.	A-13-1	8, 4-10	7915	Drilling
Bolsa Chica	New Fields Oil Co.	1	16, 5-11	4100	Idle
	Patos Drilling Co.	1	21, 5-11	4325	Drilling
Corona del Mar	Shell Oil Co., Irvine	3	6, 7-9	1826	Abandoned
Costa Mesa	A. V. Oil & Gas Co.	1	16, 6-10	4751	Idle
	San Bernardino				
Carbon Canyon	Carbon Canyon Oil Co.	1	30, 2-8		Rig
Chino	So. Counties Pet. & Drlg. Co.	1	25, 2-8	3500	Drilling
	San Diego County				
Carlsbad	Dauphin Dev. Co., Kelly	1	16, 12-4	1150	Idle

Two To Test Deep Montebello Zone

Preparing to test the seventh and deepest zone in the West Montebello field are Union Oil Co. Calkins No. 1 and Olympic Refining Co. Smith Comm. No. 1. The former well is bottomed at 7160 ft. and is standing with casing cemented at that point which will be gun perforated first in the seventh zone, then probably in the fourth finger of the sixth. Olympic Refining Co. drilled to 7137 ft. and landed a liner on bottom containing 105 ft. of perforations. A cement job at 7020 ft. is being tested for water shut-off. Tentatively both companies have agreed to produce only the fourth finger of the sixth zone after a production test is made of the seventh. A formation test of the bottom 45 ft. in the Calkins well resulted in a strong flow of clean oil.

Long Beach City Rejects 60¼% Bid

Recently the Long Beach city council and harbor commission had the pleasure of rejecting what is probably the highest offer ever made on an oil property. With the statement that Ramsey & Stephen's bid of 60¼% royalty for Terminal wells and 31% for Ranger was not sufficiently high, and that a better offer, presumably from a syndicate of companies, has been received after the opening of the Ramsey bid, the city council unanimously overruled the harbor board's award. The latter body then reversed its decision and announced that a new call for bids would be issued. Meanwhile, the city's 269 acres of prime oil land remain undrilled and operators of offset wells continue about their business with extremely complacent expressions on their faces.

With the harbor channel controversy settled after many months' delay, Signal Oil Co. is making hole in the first two of its projected 18 wells. D. D. Dunlap Oil Co. is preparing to drill a channel well from a location on Union Pacific property and the city has issued Westgate-Greenland Co. a permit for another well at the entrance channel.

In the northwestern section of the Wilmington field, Franco-American Oil Co. finished its No. 1 well as a small heavy oil producer from 3725 ft. In the same portion of the field, the McCloskey-Padreson well was being prepared for completion with bottom at 3662 ft.

Howard Oil Spuds Rosecrans Outpost

In an attempt to extend Rosecrans production more than a block to the south, Howard Oil Associates spudded H. O. No. 1 on Compton Blvd. Although opinions of engineers differ, many believe the location to have excellent possibilities. Surface casing has been set and the well is drilling ahead below 2000 ft.

Within the proved area, Isco Petroleum Corp., Rosecrans-Able No. 1 is nearing its final depth at 7400 ft. Located at the west bend in Main St., the well is surrounded by good producers. At the south edge of production on Maple Ave., Metcalf Oil Co. is drilling its Rosecrans No. 1 on the Bradford lease obtained from Bankline Oil Co. Immediately to the north, Bankline is down 6500 ft. in its Kirby No. 2. Kirby No. 1 is standing idle with a fish in the hole after being redrilled to 7622 ft.

Barnsdall Oil Co. and Union Oil Co. who together pioneered the O'Dea zone development, each have one string of tools working, both wells being yet at shallow depths.

Hydro-Carbon Products Co.'s recently completed Duchess No. 1 is flowing 420 bbls. of 32.5 gravity oil through a 30/64 in. bean. A three percent cut, all mud, is reported.

Unable to recomplete in the O'Dea zone, Superior Oil Co.'s Maxwell No. 12 is still alternately swabbing and bailing after plugging bottom from 8852 to 7695 ft.

Universal Consolidated Oil Co., Trust No. 14, after a slow start is flowing steadily at approximately 400 bbls. a day rate.

Three Companies Drill In New Aliso Field

Three wells are being drilled by as many different companies in the new Aliso Canyon field west of San Fernando. Because of steeply dipping hard formations, drilling is relatively slow and all three are making hole at approximately 1000 ft. Union Oil Co., Standard Oil Co. and Tide Water Associated Oil Co. are the operators.

Tide Water Associated's discovery well, Porter No. 1, which had been beaned to 285 bbls., stopped flowing recently, but was turned to production at once with a single run of the swab.

Brea Deep Test Small Producer

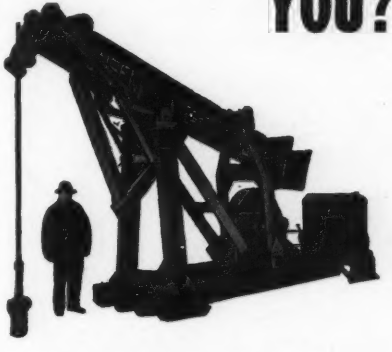
Orange No. 20, Shell Oil Co.'s deep test of the Brea Canyon field, failed to find productive formations below 7200 ft. and plugged back to 7185 ft. where with three intervals open below 4600 ft., it was brought in flowing by gas lift. Average yield is 70 bbls. of oil testing 26 gravity with a 65% salt water content. Total depth is 7984 ft.

Sandstone Oil To Deepen Vista Well

Sandstone Oil, Inc., recently formed by J. C. Theriot and F. W. Holbrook, has acquired the old Vista well in the Yorba Linda area. It is planned to build a derrick over the abandoned hole and core below present bottom of 6004 ft. The new owners believe that small production may be obtained by perforating casing opposite sands logged in the original drilling.

Climate and area account for two cars to every five persons in California.

HOW BUSY ARE YOU?



We have no quarrel with the man who finds out what to expect of the right JENSEN Jack on a given well, and then decides, with the facts before him, that he doesn't want it.

How busy are you? If you can spare a few minutes now that may reasonably save you thousands of dollars later, get in touch with . . .

A. V. TURNER
California Representative
Box 642 Huntington Park

STOCKED BY:
MEDEARIS OILWELL SUPPLY CO.
8638 Otis St. South Gate, Calif.

JENSEN
BROTHERS
MANUFACTURING CO.
Coffeyville, Kansas, U. S. A.

Coastal District

Dragon Nears Sand In Five Points Well

Dragon Oil Co. No. 1, outpost well located north of the three Huntington Beach Five Points producers, is coring for the oil sand at 4000 ft. South of J. E. F. Oil Co. Bruce No. 1, Booth Oil Co. skidded in the old Apex rig but before it had been properly guyed, a wind storm laid it flat. Reid Petroleum Co. No. 1 is yet an idle rig and no work other than foundation excavations has been done for the proposed Eriksson well.

Along the ocean front, Southwest Exploration Co. is running three strings of tools with State No. 8 now being readied for completion. The wells which are all in a straight line on the Standard Oil Co. property, will be serviced from a mobile rig running on tracks.

In the old Huntington Beach field, The Texas Co. is drilling Brown No. 10 at 2138 ft.

Hall-Baker Recompletes McKittrick Project

After finding the Franco-Western zone barren, Hall-Baker, Inc. plugged Williams No. 1, sec. 2,30-21, from 2493 ft. to 1335 ft. where on a former production test the well flowed commercial quantities of gas and a little oil. Preparations are being made to recomplete.

In sec. 7,30-22, Standard Oil Co. finished well No. 30 at 2202 ft. pumping 75 bbls. a day. In the same section, No. 29 is preparing to spud while No. 31 is fishing for drill pipe with bottom at 2050 ft.

Westco Petroleum Co. No. 1, deep test of sec. 34,30-22, is fishing for drill collars and bit lost on bottom at 5345 ft.

Torrance Extension Activity Subsides

Only a few months ago a beehive of activity, the Torrance extension area has lapsed into almost complete quiescence. Where once twenty rigs were running, now there are only two wells drilling; General Petroleum's Poggi No. 13 and The Texas Co.'s Oakley No. 3.

Ridge Acquires Seacliff Well

Ridge Oil Co., headed by Robert H. Berkey, has taken over the Seacliff Oil Co. wildcat west of the Montebello field. For several months idle at 715 ft., the new operator will set surface casing and continue the drilling.

Epco, Inc., Drills At 4200 Ft. Near Union

Near the cross roads of Union on the Lost Hills highway in San Luis Obispo county, Epco, Inc. is drilling its No. 1 test well in shale streaked with sand at 4200 ft. Location of the project is in sec. 27,26-13.

Stanislaus County

The Santa Maria Petroleum Corp. well located near Oakdale in Stanislaus county is drilling in conglomerate below 2310 ft.

Sta. Barbara Wildcatting Shows Recent Increase

A few months ago with but a single active wildcat, Santa Barbara county exploration is now returning to its normal pace. Litho Oil Co. has spudded its Capitan test, Hogan Petroleum Co. is coreholing the Zabala Ranch, Western Oil Royalties is drilling at Carpenteria and Douglas-Stratton Oil Co. is endeavoring to make a consistent producer of its Carreaga well.

In Foxen Canyon, Richfield Oil Corp. is drilling Tinaquaic No. 1 below 4000 ft.; Southern California Drilling Co. is

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Monterey	Anderson, A. A., Hillman	1	15, 24-14	4004	Idle
	Texas Co., Arroyo Seco	1	11, 19-15		Rigging up
Santa Cruz	Faria, Joseph Jr.	1	12, 11-3		Location
	Hatcher, Homer	1	8, 9-1		Location
Stanislaus	Orestimba Oil Co.	1	12, 7-7	1550	Idle
	Santa Maria Pet. Co.	1	34, 1-10	2310	Drilling
Sutter	Buttes Oilfields, Inc.	5	1, 15-1		Rig

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
Santa Barbara County					
Capitan	Litho Oil Co., Rhode I.	1	4, 4-30	350	Drilling
Carpenteria	Western Oil Royalties	1	32, 4-25	850	Drilling
Carreaga	Douglas-Stratton Oil Co.	1	8, 8-33	7240	Pumping
Foxen Canyon	Richfield Oil Corp., Tinaquaic	1	36, 9-32	4010	Drilling
Gaviota	Gaviota Oil Co., Hollister	1	35, 5-33	3215	Idle
Gato Ridge	Barnsdall Oil Co., Mag Pezzoni	5	9, 8-32	3385	Drilling
		1	15, 8-32	4494	Idle
	Garvin & Leaman	17–1	22, 4-26	1400	Drilling
Los Olivos	United Western Oil Co.	1	15, 7-30	3325	Drilling
Summerland	Oil Group, Inc., Hyland	1	16, 4-26		Rig
San Luis Obispo County					
Edna	Loma Grande Oil Co., Lewis	1	28, 31-13	2125	Idle
Elk Horn	Calif. Pet. Prod. Co., Irons	1	19, 10-24	1825	Testing
	Lee, Harry, Defiance	1	7, 32-22	290	Idle
	Newton, S. M., Stafford	1	18, 31-21		Rigging up
	Western Plains Oil Co.	1	7, 31-21	4010	Idle
Huasna	Hancock O. Co.,Scherer-Dickes	1	30, 12-33	5593	Idle
Paso Robles	Vanguard Oil Co., Clark	1	26, 27-14	4950	Idle
	Epco., Inc.	1	27, 26-13	4170	Drilling
Ventura County					
Ojai	High Mesa Oil Co.	1	16, 4-22	1770	Idle
Red Mountain	Martin, J. W.	3	15, 4-21	1260	Idle
Sespe	Drain Oil Co., Cosby	1	14, 4-19	1120	Idle
	Claran Oil Co., Hardison	1	22, 4-20	2940	Drilling
	Commander Oil Co.	7-F	13, 4-19	575	Idle
	Crystal Oil Co., Crystal	1	35, 5-20	250	Idle
	Ivers, H. A., Kentuck	14	1, 4-20		Location
	Merchants Pet., Cochran	8	1, 4-20	1700	Drilling
	Speik Oil Co., Chappuis	1	33, 5-19	3637	Pumping
Shiells Canyon	The Texas Co., Shiells	136	4, 3-19	3070	Pumping
	El Rancho Oil Co., Elkins	2	9, 3-19	2710	Drilling
South Mt.	Clipper Oil Co.	1	17, 3-20		Rig
Tar Creek	Section 20 Oil Co.	1	20, 5-19	2540	Drilling
Timber Canyon	Stallings, Senter, Ahlberg	1	24, 4-21	1445	Idle
Ventura	Ventura Drilling Co.	1	10, 3-23	2285	Idle
	Ventura Exploration Co., Sexton	1	30, 3-22	9511	Idle
Wheeler Canyon	P & M Oil Co.	1	24, 4-22		Location

again attempting to produce its Houk No. 1 near Orcutt; Barnsdall Oil Co. resumed drilling in its Magenheimer No. 5 at Gato Ridge and at Summerland Garvin & Seaman are deepening the old Gauthier well on State Tideland Permit No. 17.

Los Olivos Test Resumes Operations

Bradley No. 1, United Western Oil Co.'s test near Los Olivos, recently resumed drilling after a six months' shut down. Located in projected sec. 15, 7-30, the well was last reported bottomed at 3350 ft.

Texas to Spud Arroyo Seco No. 1

The Texas Co. is preparing to spud in its latest Monterey county wildcat, Arroyo Seco No. 1 which is located in sec. 11,19-5.

California Crude Oil Production

Two Weeks Ended January 28 1939

	January Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Belridge—North	14,890	12,830	*2,060
Belridge—South	1,995	1,126	*869
Buena Vista	16,825	16,659	*166
Canal	3,910	3,791	*119
Coalinga-East(Eocene)	2,500	2,490	*10
Coalinga—East-West	15,930	6,641	*9,289
Coffee Canyon	2,810	3,053	243
Edison	2,440	2,399	*41
Elk Hills	7,615	10,373	2,758
Fruitvale	6,975	6,679	*296
Greeley	2,540	2,226	*314
Kern Front	7,740	7,230	*510
Kern River	5,720	2,485	*3,235
Kettleman No. Dome	57,605	57,189	*416
Lost Hills	4,280	3,060	*1,220
McKittrick	3,830	3,734	*96
Midway	41,865	44,390	2,525
Mount Poso	13,460	13,286	*174
Mountain View	8,530	8,658	128
Rio Bravo	6,570	7,480	910
Round Mountain	8,980	8,724	*256
Ten Section	8,770	8,669	*101
Wasco	635	733	98
Other Fields	2,520	2,411	*109
TOTAL	248,935	236,316	*12,619
Coastal Counties			
Elwood	4,645	4,597	*48
Rincon	2,995	3,858	863
Santa Maria	5,895	2,678	*3,217
Gato Ridge	2,215	4,147	1,932
Santa Maria Valley	19,180	10,336	*8,844
Santa Paula-Newhall	5,320	5,106	*214
Ventura Avenue	31,285	33,757	2,472
Other Fields	5,730	5,592	*138
TOTAL	77,265	70,071	*7,194
Los Angeles Basin			
Alamitos-Seal Beach	7,315	7,762	447
Brea-Olinda	8,435	5,759	*2,676
Coyote—East	2,865	2,585	*280
Coyote—West	7,810	7,685	*125
Domingues	19,430	21,823	2,393
El Segundo	3,680	3,818	138
Huntington Beach—New and Old	25,375	28,647	3,272
Inglewood	12,855	13,623	768
Long Beach	42,555	48,934	6,379
Montebello	6,066	6,225	159
Montebello-West End	5,389	7,770	2,381
Playa del Rey	5,035	5,317	282
Richfield	7,575	7,852	277
Rosecrans-Athens	9,015	14,540	5,525
Santa Fe Springs	27,695	30,153	2,458
Torrance	15,485	19,935	4,450
Wilmington	69,260	84,970	15,710
Other Fields	3,075	3,182	107
TOTAL	278,915	320,580	41,665
STATE TOTAL	605,115	626,967	21,852

*—Shortage.

Rains Hamper Sespe Drilling

The wetness of the winter has been a discouraging influence on activity in the Sespe district of Ventura county. No sooner are the roads made passable than a new storm necessitates more repair work. Among the few fortunate enough to continue operations are Merchants Petroleum Co. and Section 20 Oil Co.; the former company's Cochrane No. 8 drilling at 1700 ft while the latter's test is reported at 2550 ft.

Wildcats Planned For Sta. Cruz Co.

The general revival in coastal wildcatting has extended northerly to Santa Cruz county where two new operations are planned. In the Moody Gulch area Homer Hatcher of Long Beach has located his first well in sec. 8,9s-1w; while near Santa Cruz, Joseph Faria Jr., a Brentwood resident, will drill in sec. 12, 11s-3w.

Mesa Well Rigs Pump

Mdivani No. 2, Santa Barbara Mesa well of Trans-Oceanic Oil Co., is being rigged to pump after a liner containing 50 ft. of perforations was landed on bottom at 1501 ft. Before running casing, the well flowed for several hours at the rate of 75 bbls. a day but a sand bridge soon formed killing the flow.

Deepening Planned For Nipomo Well

Said to be planning a deepening and testing program, a new operator has taken over the Aviation Oil Co. well near Nipomo in San Luis Obispo county which has been standing idle for nearly two years. Bottomed at 1935 ft., the hole is located on the Brintnall lease in sec. 10,11-35.

Oil Man Joins KCL Staff

Mr. Lee M. Ralph recently assumed his new duties as resident petroleum engineer for the Kern County Land Co. at Bakersfield. Mr. Ralph is well known within the industry, having formerly been associated with the geological department of the Shell Oil Co., the Bakersfield division of the Oil Umpire, and more recently with the Wilmington production department of Geo. F. Getty, Inc.

Four New Wells For Santa Maria

Returning to life after months of dormancy, the Santa Maria Valley field is the scene of four new drilling operations. As of old, sec. 27,10-34 is the hot spot with two, the other pair being projects of E. H. Moore, Inc. on the large Union Sugar lease in the western section of the field. The sec. 27 wells will be drilled by the new operating combination of W. R. Gerard and L. T. Thompson whose location is on the Berneiser lease and Geo. F. Getty, Inc. who will drill Vicente No. 8. All four of the new locations are in territory proved by surrounding wells.

General Petroleum Men Are Promoted

Lloyd Bayly, connected with General Petroleum Corp. for 14 years in important executive capacities, has just been

Lloyd Bayly

appointed sales manager of the Southern division of this Mobilgas marketing organization, says an announcement issued by Don Dawson, general sales manager.

Mr. Bayly is well known throughout the Pacific West, and familiar with all phases of the oil business. He started with the company at Portland in 1925. In 1929 he was advanced to assistant division manager in Southern California, which position he held until 1934, when he was made general manager in Washington, where he served three and a half years.

From Seattle, in May, 1937, Mr. Bayly was transferred to Los Angeles, since which he has served the home office in advertising, sales promotion and sales ex-

ecutive capacities. He is well fitted for direction of Southern division sales through broad experience with company activities.

Announced by C. H. Wartman, General's Southern division general manager, is the advancement of H. D. L'Heureux, until recently district manager headquartering in Pasadena, to manager of an enlarged Los Angeles district, with supervision over 14 branches and wholesale agencies. Mr. L'Heureux has a record of 28 years' service with this growing major oil company.

Other advancements announced by Wartman include:

Felix Chappellet, 15 years with General, principally as real estate specialist, advanced to sales assistant of Los Angeles district.

G. F. Weismann, after 10 years' service, most recently as senior commercial salesman, promoted to Los Angeles branch manager.

E. Chase Burns, after five years' service as real estate man, station supervisor and salesman, promoted to manager of Santa Monica branch.

E. E. Bame, for 14 years with the company, promoted from senior salesman of Pasadena area to sales assistant of Colton district.

R. L. Hepler has been transferred from Santa Monica to the division office in charge of merchandising work. Vern A. Bellman, popular Washington graduate and football star, has been transferred from Los Angeles to the managership of Seattle district.

Wallace Linville of Los Angeles has been promoted to lubricants engineer of Northern California division.

Axelson Holds Meeting of California Sales Force

Members of the Axelson Manufacturing Company's sales force recently met for a two-day session at the main plant in Los Angeles. Under the direction of Alvin Zwerneman, California sales manager, various field services and distribution problems were discussed.

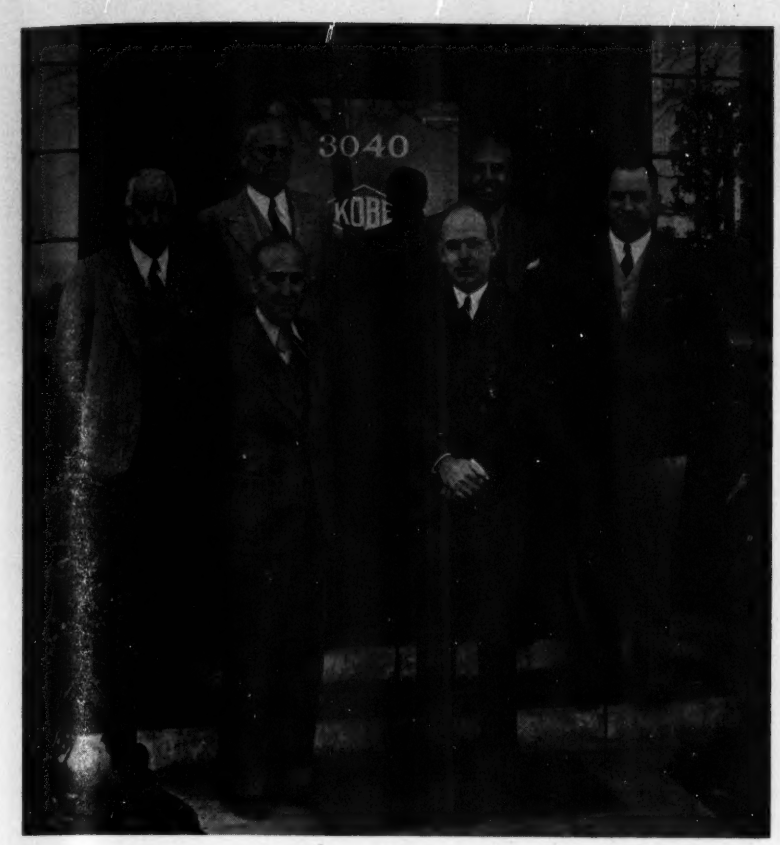
Mr. Zwerneman pointed out that this meeting was only one of a number scheduled for 1939, all designed to make Axelson's service to the oil operators more complete and far-reaching.

Above is shown the new 24-in. 4-point hole opener recently manufactured by the H. C. Smith Oil Tool Co., Compton, Calif. The tool weighs 1600 lbs. and was used in opening an 18⅝-in. hole to 24 in. in the new Aliso Canyon oil field near Chatsworth. This hole opener is the largest ever manufactured by this company for use in a California field. Note size of hole opener as compared with men standing on either side.

Buttes Rig Up

From Marysville comes reports that Buttes Oilfields, Inc. has derrick up for its fifth gas well in Sutter county.

Axelson's sales executives hold two-day meeting at Los Angeles headquarters. Beginning at the extreme left and reading around the circle are: Alvin Zwerneman, Ray M. Humphreys, M. Ray Conger, Howard F. Donley, Glynn Williams, Willard F. Goertz, Stanley Morrish, Clinton J. Huyck, Philip E. Humphreys, Howard Cowan, W. Harry Getsinger, William R. Jennings, Edwin F. Green, Milfred J. Parker, Abraham G. Haglund, Clayton E. Rose, Harlan S. Kelley, William H. Jackson, and Elmer J. Phillips.



From left to right, front, George W. Schweinhard and C. J. Coberly; rear, Roy Somers, Wendell Jones, J. J. Siegel, and A. M. Smith, when Kobe, Inc. was host to Petroleum Equipment Co. representatives.

Petroleum Equipment Co. To Distribute Kobe Hydraulic Pumps in California

Announcement of the appointment of Petroleum Equipment Co. of Los Angeles as exclusive distributors of Kobe Hydraulic Pumps in the State of California, has just been made by C. J. Coberly, president of Kobe Incorporated of Huntington Park, Calif.

Simultaneously with the announcement the Kobe executives and personnel were hosts to Petroleum Equipment Co.'s executives, sales, engineering and field staffs at an afternoon and evening get-together meeting in the Kobe offices and plant for the purpose of acquainting them with every detail of the design, construction and operation of the Kobe Pump. Twenty-two members of the Petroleum Equipment Co. headed by George Schweinhard, president and founder of the company; Roy Somers, vice president, and Wendell Jones, manager engineering division, attended the meeting. During the afternoon the men were shown through the Kobe plant in groups, where each step in the manufacture of Kobe products was witnessed and explained in detail; after which considerable time was spent examining and discussing the various parts of the entire pumping unit which were on display.

Later Mr. Coberly addressed a meeting of the entire group, illustrating by means of blackboard sketches and stereoptican views the design and principle of operation of the various units incorporated in the Kobe Pump, such as the Triplex Power Unit, the Production Unit, and the Filter; and the performance records of plants in service. A number of installations throughout the Mid-Continent and California fields also were shown and discussed. Following the talk by Mr. Coberly, the meeting was opened to general discussion, questions and answers, and a review of the proceedings. Dinner and refreshments were served in the general offices during the evening, affording the men of both companies an opportunity to become better acquainted.

The Petroleum Equipment Co. has enjoyed remarkable progress during its fifteen years of operations in California, and its appointment as distributors of Kobe Pumps in this field is looked upon as a most advantageous connection for both concerns. General offices and general warehouse facilities are located at 2800 South Alameda street in **Los Angeles.** The company also maintains an office and warehouse at 17th and Connecticut streets in **San Francisco;** and field stores at **Taft, Bakersfield, Long Beach, Kettleman Hills, Santa Fe Springs, Coalinga, Wilmington, Santa Maria,** and **Fillmore;** thus providing effective sales and service facilities to all California oil fields. In addition to representing a number of leading manufacturers of oil field equipment in this territory, the company also manufactures a number of products distributed—and maintains an engineering department to assist in designing and supplying equipment for both the production and refining departments of the petroleum industry.

Kobe, Incorporated is well known throughout the petroleum industry as manufacturer of Kobe Heat-Treated Screen Casing and the Kobe Hydraulic Pump, both products being used extensively by operators in various fields. More than a hundred installations of Kobe Pumps of both single and multiple units, for operating individual wells and groups of wells from a central plant, now are in service throughout the Mid-Continent; and a similiar number throughout California oil fields. Some of these plants have been in service for periods of from four to seven years operating under a wide range of field and well conditions handling wells from 2,000 to 8,600 feet in depth and fluid quantities from 10 to 1,000 barrels per day.

Honolulu Completes Buena Vista Well

First new production in many months for the Buena Vista Hills field is soon to be obtained by Honolulu Oil Co. which is completing well No. 5A in sec. 14,32-24. With bottom at 3024 ft., 6⅝-in. casing was cemented at 2961 ft. A liner with perforated intervals from 2958 to 2987 ft. and from 3007 to 3024 ft. has been landed. To protect against intermediary water, the blank section was cemented.

Trouble Pursues Greeley Vedder Well

Water trouble continues to jinx Standard Oil Co.'s Fleishauer Comm. No. 2 in the southern portion of the Greeley field. The latest test of a twenty foot interval to 11,563 ft. resulted in a 1500 bbl. flow, 60% of which was salt water. In the same area, the company's Elrich Comm. No. 1 is coring for the zone below 11,500 ft.

California, on January 9, was granted a U. S. Supreme Court review of a decision permanently enjoining enforcement of the State Motor Caravan Act of 1937.

Business and Professional Directory

THE
HANCOCK OIL COMPANY
of
CALIFORNIA

PRODUCERS · REFINERS
MARKETERS

J. R. PEMBERTON
Oil Umpire
1110 Security Title Insurance Bldg.
Los Angeles, Calif.
TRinity 9705

MARTIN VAN COUVERING
PETROLEUM ENGINEER
405 South Hill Street
LOS ANGELES
CALIF.
MIchigan 8781

GERARD HENNY, Ph.D.
Consulting Geologist
417 S. Hill St. Los Angeles
VAndike 7053

M. H. SOYSTER
Petroleum Engineer and Geologist
4321 Clinton St., Los Angeles, Calif.
OLYMPIA 2786—If no answer call
MUtual 2161

LOUIS C. CHAPPUIS
Petroleum Engineer and Geologist
508 Wright & Callender Bldg.
Los Angeles MUtual 4821

Classified Advertisements

CLASSIFIED ADVERTISING RATES

small type: 50c per line per insertion. Count six words to a line. Minimum charge $2.00. All classified advertising payable in advance. Four consecutive insertions at price of three, if copy does not change.

24 times .....$ 7.50 per inch
1 time ..... 10.00 per inch

Not responsible for more than one incorrect insertion.

WANTED FOR CASH

Scrap iron—old pipe, boilers, derricks, machinery, etc. Will go anywhere and dismantle. Industrial Steel Co., 1031 S. Broadway, Room 304, L. A., PRospect 9645. 2-5-d

REFINERIES AND GASOLINE PLANTS

Reconditioned or new heat exchangers, stills, fractionators, absorbers, condensers, at cut prices. Plants designed any size for any use. W. F. Pyne, 909 Ardmore Ave., Los Angeles. DRexel 1412. tf

Established manufacturer of oil field equipment with large plant and 11 stores in major fields, desires to communicate with companies who wish to have their products manufactured and distributed in Mid-Continent and Eastern Oil Fields. Direct replies to Box 8, care of California Oil World. 2/5-b

PIPE AND CASING

All sizes, also valves and fittings. Reconditioned and tested
IMPERIAL PIPE AND SUPPLY CO.
2750 E. Washington Blvd., Los Angeles, Calif.
Phone: ANgelus 7271 tf/b

MAPS

Large maps of Los Angeles Basin oil fields and map showing all California oil fields. Price $15.00 each on paper and $20 each on cloth. Individual state oil and gas maps of Mid-Continent and Rocky Mountain regions. Maps show geological cross sections at base. These maps indicate wells drilling, wells producing and abandoned, with depths.
All maps revised up to date of purchase.
JAMES C. BRANSFORD
1127 Story Bldg.
Los Angeles, Calif.
Phone: TUcker 7530

CORE ANALYSIS LABORATORY
(Incorporated)
Specializing in the physical determination of porosity, permeability, oil and water saturation of core samples.
P. O. Box 461 Telephone
Ventura, Calif. Ventura 6355

GRAYDON OLIVER
PETROLEUM ENGINEER
215 West 7th Street
Los Angeles, Calif. VAndike 3696

Oil Men's Calendar

C.N.G.A. Meeting First Thurs. Each Month.

February

16—Industrial Marketers of So. Calif.—Round Table Discussion of Advertiser's Problems. University Club—6:30 P.M.—Dinner optional.

20-24—12th National Asphalt Conference auspices of The Asphalt Institute, Biltmore Hotel, Los Angeles.

March

22-24—The American Association of Petroleum Geologists 24th annual meeting, Oklahoma City, Okla., Skirvin Hotel, headquatrers.

April

24-29—Oil World Exposition, Inc., Houston, Texas.

A duty of 3 cents a gallon on imports of oil to aid the soft coal industry in the United States was proposed on January 11 by Representative Smith of West Virginia, chairman of the House Mines and Mining Committee.

Bull dog spears—steel spears for recovering "fish."

Employment in the California petroleum industry in November totaled 49,885, according to an estimate by the California Oil and Gas Association.

Signatures of more than 100,000 Californians attested on January 9 in Washington, D. C., to a growing demand for immediate assumption by the Federal Government of responsibility for caring for the hordes of indigent migrants who have swarmed into the state in recent years.

A change of Interior Department rules by which the holder of a gas or oil prospecting lease may file the required $1000 compliance bond without actually residing within the state in which he has the property was announced on January 10 by Secretary of the Interior Ickes.

Designed to carry traffic at 90 miles an hour, a transcontinental super-highway is definitely a project of the near future, said Charles M. Upham, director of the American Roadbuilders Association.